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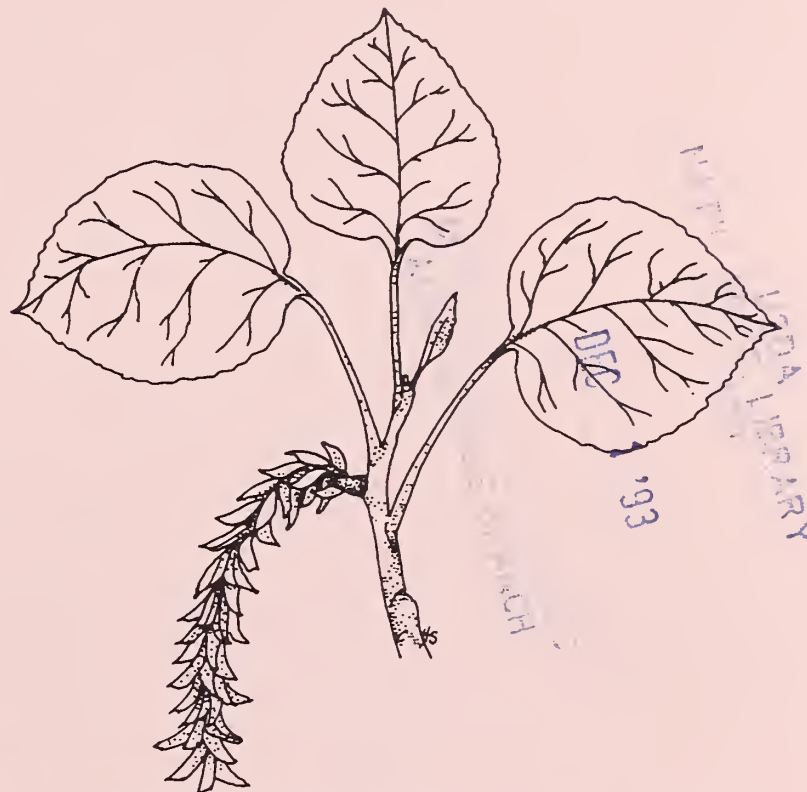


Flora of the Fraser Experimental Forest, Colorado

Steve J. Popovich, Wayne D. Shepperd, Donald W. Reichert,
and Michael A. Cone



Abies lasiocarpa (Subalpine Fir)



Populus tremuloides (Quaking Aspen)



Picea engelmannii (Engelmann Spruce)



Pinus contorta var. *latafolia* (Lodgepole Pine)

Abstract

This report lists 441 vascular plant taxa in 228 genera and 63 families encountered on the 9,300-ha Fraser Experimental Forest in central Colorado. Synonyms appearing in previous publications and other works pertaining to the Fraser Experimental Forest, as well as appropriate Colorado floras and less-technical field guides, are included. Plant communities and habitats are discussed, and a list of 54 lichens is also presented. A glossary of related terms is included.

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¹Steve Popovich was formerly Research Range Scientist, Rocky Mountain Forest and Range Experiment Station. He is currently Botanist, United States Department of the Interior, Bureau of Land Management, Shoshone, ID. Wayne Shepperd is Research Silviculturist and Donald Reichert and Michael A. Cone were Research Forestry Technicians at the Rocky Mountain Forest and Range Experiment Station. Headquarters is in Fort Collins, in cooperation with Colorado State University. Address reprint requests to Wayne Shepperd.

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INTRODUCTION

This report documents vascular plants occurring on the Fraser Experimental Forest (referred to as the Forest). Both scientists and laypersons alike will find the checklist useful in cross-referencing plants and plant communities found on the Forest to other places of interest. The checklist also adds to the databank of species' geographic distributions and habitats. Older names that appear in previous publications and unpublished works relating to the Forest can be referenced to newer names. Readers can use Harrington's 1954 *Manual of the Plants of Colorado*, Weber's 1987 *Colorado Flora: Western Slope*, or most other less-technical field books and quickly reference them to the checklist. A short list of lichens is also included.

The Fraser Experimental Forest was established in 1937 in the central Rocky Mountains of Colorado (fig. 1). This 9,300-ha (36-mi²) outdoor research laboratory is maintained by the USDA Forest Service, Rocky Mountain Forest and Range Experiment Station. The Forest is located 81 air km (50 air mi) west of Denver, Colorado, and 26 air km (16 air mi) south of Rocky Mountain National Park. Latitude and longitude at headquarters are 39° 53' N. and 105° 53' W., respectively. The Forest boundaries roughly correspond to the delineation of the subalpine portion of the St. Louis Creek watershed (fig. 2). The location is well suited for studying vegetation, water, wildlife, and their integration in high-elevation subalpine coniferous forests. Research programs focus on forest regeneration; increasing growth and yield of trees; increasing water supplies; maintaining water quality; improving wildlife habitat; and study-

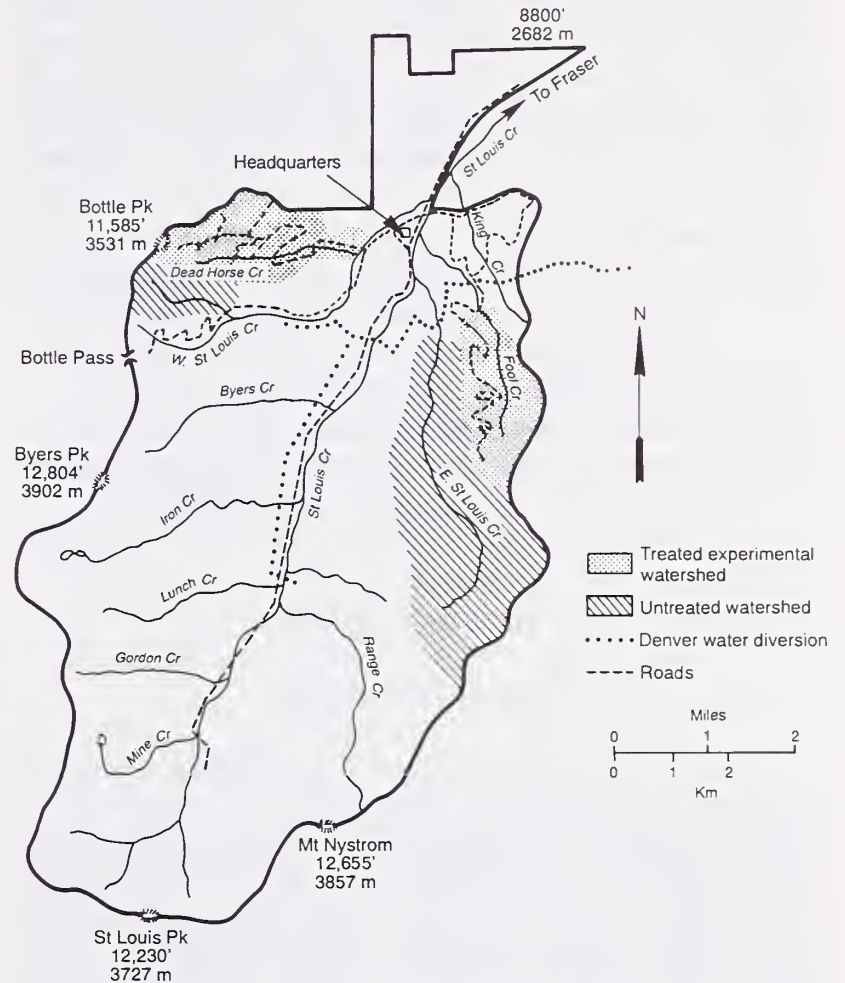


Figure 2. — Fraser Experimental Forest.

ing the effects of timber harvest on these resources. The Fraser Experimental Forest is also a Biosphere Reserve (MAB-8) in the United Nations Educational and Cultural Scientific Organization's Man and the Biosphere Program, which recognizes that cooperative interdisciplinary research is needed at all levels if pressing global environmental problems are to be solved.

Elevation of the Fraser Experimental Forest ranges from 2,684 m (8,800 ft) at the main entrance to 3,905 m (12,804 ft) at the summit of Byers Peak. Headquarters is at 2,745 m (9,000 ft). About three-fourths of the Forest lies above 3,050 m (10,000 ft), and about one-third is above upper tree line.

Climate is temperate with long, cold winters and short, cool summers. Average yearly temperature at Forest headquarters is about 1° C (33° F), and frost can occur any month of the year. Mean monthly temperature for January is -10° C (14° F), and for July it is 13° C (55° F). The observed annual range is about -40° to 32° C (-40° to 90° F). Annual precipitation at headquarters varies from 43 to 71 cm (17 to 28 in), while over the entire Forest precipitation averages 74 cm (29 in). Nearly two-thirds of

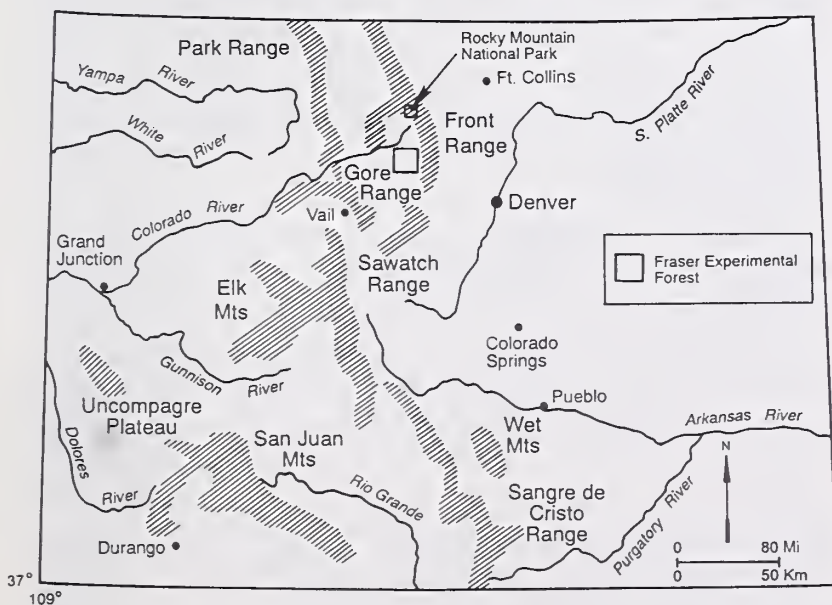


Figure 1. — Location of Fraser Experimental Forest. Map Adapted from original by Diane Lorenz in Hogan (1992).

the total precipitation falls as snow from October through May. As spring advances, snow disappears progressively from lower to higher elevations, and from south slopes first.

The varied topography of the Forest is typical of the southern Rocky Mountains. The western portion of the Forest is characterized by rugged mountains and narrow, steep-sided valleys filled with alluvium and glacial outwash. Southern and eastern portions are remnants of an old peneplain, dissected by glaciers and characterized by long, gentle, relatively uniform slopes. The northern portion is a nearly level, broad valley dissected by St. Louis Creek and surrounded by rolling hills.

Soil parent material is generally derived from gneiss and schist. These soils are typically shallow and gravelly or sandy. Occasionally, small outcroppings of granitic rock occur. At high elevations, especially in the western portion, sandy soils containing large amounts of stone have developed from sandstone parent material. Alluvial soils occur along main streams, with parent material being a mixture of glacial till, glacial outwash, and recent valley fill.

THE VEGETATION

General Description

Native vegetation at Fraser Experimental Forest is typical of the subalpine and alpine regions of the Colorado Rocky Mountains. Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) are the predominant trees at higher elevations, on north slopes, and along streams; lodgepole pine (*Pinus contorta* var. *latifolia*) is the predominant tree at lower elevations and on drier upper slopes. In undisturbed stands, coniferous trees range from 200 to over 600 years old. Second-growth lodgepole pine stands that originated after fires about 75 years ago are common on the north end of the Forest. Scattered patches of aspen (*Populus tremuloides*) occur in areas opened by logging or fire. Occasionally a large, old (450 to 500 years) Douglas-fir (*Pseudotsuga menziesii*) can be found. Forest floors are generally covered with a layer of duff, litter, and often a dense, shrubby mat of whortleberries (*Vaccinium* spp., predominantly *V. scoparium*). Herbaceous vegetation is generally sparse, except in wet areas, in meadows, and in openings resulting from disturbance. Rocks, often lichen-covered, intermix with alpine fellfields, meadows, fens, and willow carrs above tree line. Wet areas originating from seeps or springs are scattered throughout the Forest.

Plant Communities, Associations, and Habitats

Three general vegetation zones characterize the Forest: lodgepole pine forests, Engelmann spruce-subalpine fir forests, and alpine tundra (fig. 3). Their distribution is segregated along gradients of elevation and topography

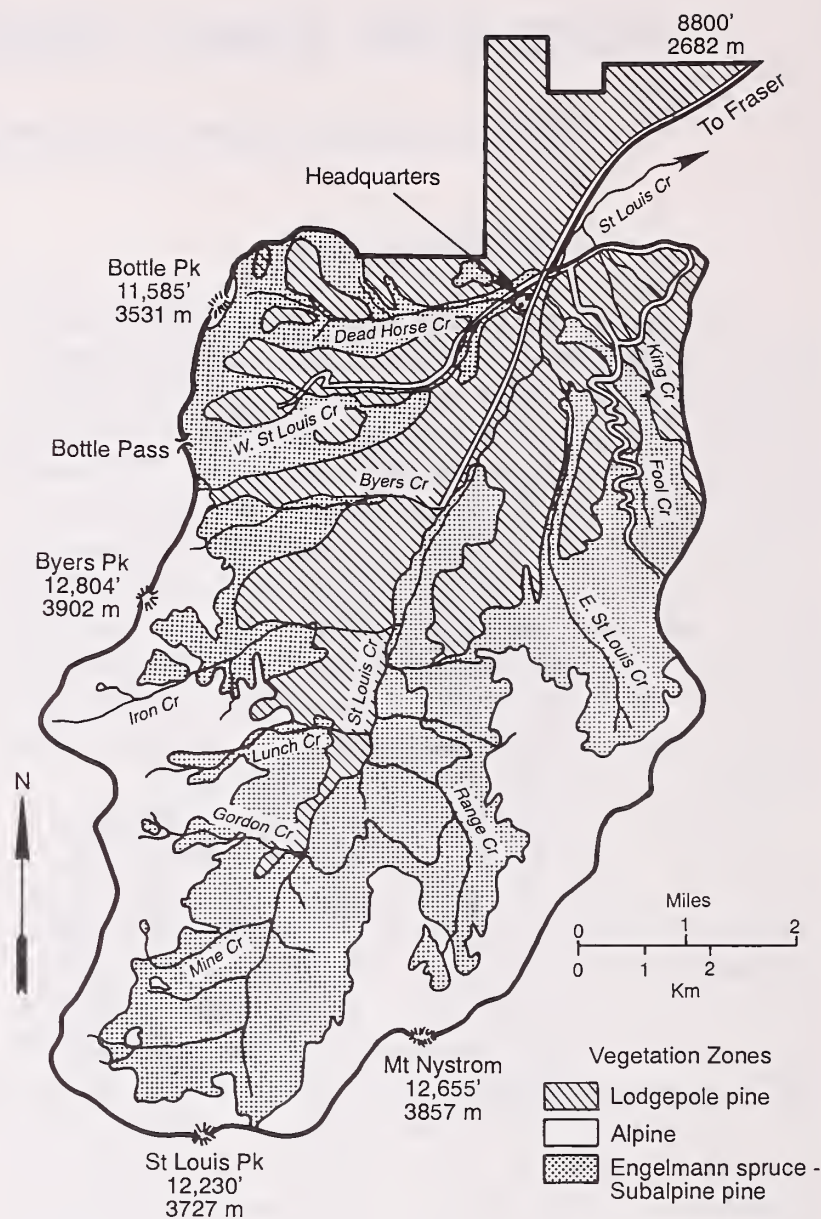


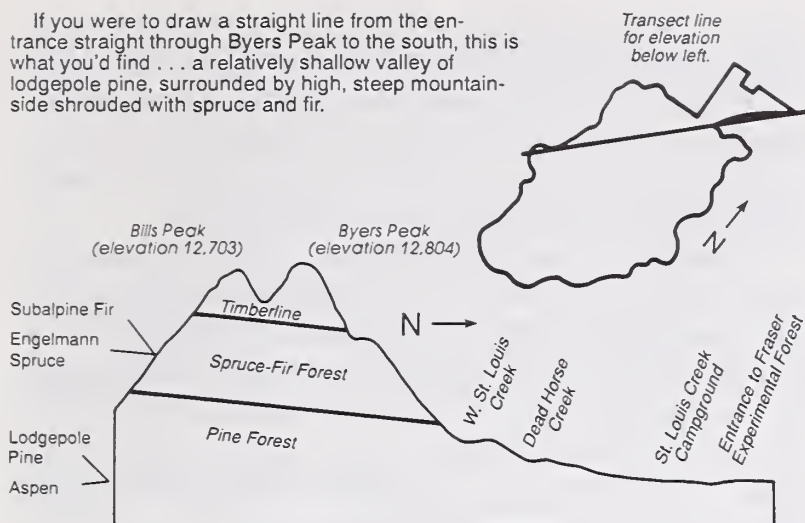
Figure 3. — Vegetation zones of Fraser Experimental Forest.

(fig. 4), which directly affect important plant growth determinants such as temperature and effective precipitation. As elevation increases, lodgepole pine forests that occupy the lower portions of the Forest give way to spruce-fir forests, which in turn yield to the alpine tundra. Generally, a species can grow at higher elevations on south-facing slopes than on north-facing slopes.

A fourth vegetation zone, the sagebrush-steppe, is present mainly in Middle Park nearby the Forest, but small outliers of this zone occur within the Forest boundary.

The basic taxonomic unit of vegetation classification used by the Forest Service to determine resource production capabilities is the plant association. In theory, a plant association represents the terminal stage of an ecological succession; in other words, it is the climax community resulting when the vegetation is allowed to persist and develop naturally in its environment through time. A plant association is described by its dominant climax plant species and by some characteristics of the sites it occupies. Plant association identification on the Forest is not clearly

If you were to draw a straight line from the entrance straight through Byers Peak to the south, this is what you'd find . . . a relatively shallow valley of lodgepole pine, surrounded by high, steep mountain-side shrouded with spruce and fir.



Note that the same tree species grow at higher elevations when the slope faces south than on slopes that face north. The added sunlight and heat create this "slope" effect.

Figure 4. — Illustration showing the influence of elevation and topography upon vegetation zones.

resolved, and the vegetation has not been classified or mapped into habitat types.² The following sections present the major plant communities that occur on the Forest. The current status of our knowledge of plant associations is also discussed.

Lodgepole Pine Forests

At low elevations, forests of nearly pure lodgepole pine occur on warm, dry sites. Occasional aspen groves are sometimes encountered. Engelmann spruce and subalpine fir are absent or infrequent, and regeneration of these species is usually minor when compared to regeneration of pine. Understory vegetation can be remarkably depauperate. The sparse, herbaceous understory is composed of various grasses, sedges (*Carex* spp.), and forbs (herbs other than grasses, grass-like, and ferns). Common grasses and sedges include bluegrass (*Poa* spp.), brome (*Bromopsis* spp.), elk sedge (*Carex geyeri*), Ross' sedge (*C. rossii*), and silvertop sedge (*C. foenea*). Some prevalent forbs are American twinflower (*Linnaea borealis* subsp. *americana*), arnica (*Arnica* spp.), fireweed (*Chamerion danielsii*), spreading golden-banner (*Thermopsis divaricarpa*), strawberry (*Fragaria* spp.), and wintergreen (*Orthilia secunda* and *Pyrola* spp.). The most prevalent shrub is whortleberry. Other common shrubs are bearberry (*Arctostaphylos adenotricha*), common juniper (*Juniperus communis* subsp. *alpina*), mountain-lover (*Paxistima myrsinites*), rose (*Rosa* spp.), russet buffaloberry (*Shepherdia canadensis*) and willow (*Salix* spp.).

The abundance and diversity of understory species can increase dramatically on wet sites and in disturbed areas, such as where overstory trees have been removed. Over-

²For more information on the regional application of plant associations and habitat types, see the introductions in Hess and Alexander (1986) and Johnston (1987).

story removal usually results in an immediate decline in average woody plant production and a concomitant increase in proportion of herbaceous plants. Tree species may again dominate the site over time.

Lodgepole pine forests are usually considered seral. In the absence of repeated, widespread fires they are commonly replaced by forests of Engelmann spruce and subalpine fir at the elevation and environment found on the Forest. Recent investigators have concluded, however, that regional lodgepole pine can be a climax or long-lived subclimax species in certain topo-edaphic situations, such as on cold, excessively drained sites. On dry, poor sites, lodgepole pine may be a subclimax species that occupies an area for hundreds of years simply because there is no seed source of climax species available for reinvasion. All of these scenarios may be occurring on the Forest.

The most prevalent lodgepole pine plant associations appear to be *Pinus contorta*/*Shepherdia canadensis* and *Pinus contorta*/*Vaccinium scoparium*. Others may be present. Possible occurrences of *Pinus contorta*/*Vaccinium cespitosum*³ and *Pinus contorta*/*Carex geyeri* (Crouch 1986, 1987) associations have not been verified. Descriptions for the above plant associations are found in Hess and Alexander (1986) and Johnston (1987).

Spruce-fir Forests

This forest zone occurs on mesic sites at low elevations and is widely distributed throughout much of the remainder of the forested landscape within the Fraser Experimental Forest. Engelmann spruce and subalpine fir are the characteristic overstory trees. Lodgepole pine and aspen are found as seral trees, with regeneration infrequent or absent by midsuccession. Spruce and subalpine fir regeneration is often abundant in forest gaps, especially at higher elevations or on cold, northerly slopes. Nearly ubiquitous whortleberries exhibit high canopy coverage in many areas. Other plants frequently encountered include arnica, spreading golden-banner, silvertop and Ross' sedge, spike trisetum (*Trisetum spicatum*), and wintergreen. Such spruce-fir forests, typically regarded as the "subalpine zone," occupy the coldest and highest coniferous forest zone on the Arapaho and Roosevelt National Forests. Near upper tree line, subalpine fir may be absent or minor compared to Engelmann spruce. Trees of this transition area from subalpine forest to alpine grassland, or krummholtz, are often twisted and stunted. Plants of alpine affinity intermix with the subalpine flora near tree line.

The most extensive plant association in spruce-fir forests is *Abies lasiocarpa*-*Picea engelmannii*/*Vaccinium scoparium*. The *Abies lasiocarpa*-*Picea engelmannii*/*Calamagrostis canadensis* association can be found on hydric soils along cold drainageways and benches adjacent to streams. The soils remain wet to moist for most of the

³Barry Johnston, personal communication, 8 January 1993. USDA Forest Service, Gunnison, Colorado.

growing season, resulting in a dense undergrowth. The *Abies lasiocarpa*-*Picea englemannii*/*Senecio triangularis* association occurs on seeps, riparian areas, and draining soils by snowbanks. It is frequently found in a narrow strip along seasonally wet areas. This and the previous association are rich in plant species. A plant association describing the communities at upper tree line has been named *Picea englemannii*/*Trifolium dasyphyllum*. Lodgepole pine communities with an understory of *Vaccinium cespitosum*, observed at low elevations on glacial alluvium soils, may be a seral stage of the *Abies lasiocarpa*-*Picea englemannii*/*Vaccinium cespitosum* plant association.⁴ The *Abies lasiocarpa*/*Carex geyeri* association reported in Crouch (1987) has not been confirmed. Descriptions of these plant associations are given by Hess and Alexander (1986) and Johnston (1987). The name of the *Abies lasiocarpa*-*Picea englemannii* series is often shortened to *Abies lasiocarpa* to be consistent with usage elsewhere.

Alpine Zone

The alpine zone consists of rock fields intermixed with a vegetation complex containing grasses, grass-like plants, dwarf willows, and many showy forbs. Several habitats promoting different plant communities occur here. Fellfields exhibiting low, matted, or cushioned plants are generally found on exposed or dry sites. Turf or lawn-like meadows with abundant wildflowers occupy less harsh areas. Moist or wet meadows are common in depressed areas or where drainage is restricted, such as in basins or below cirques. Grasses and sedges tend to dominate meadow communities. Fens and willow carrs exist where water appears for most of the year or where the soil is continuously wet. Some common plants in the alpine zone include alpine avens (*Acomastylis rossii* subsp. *turbinata*), alpine sagebrush (*Artemisia scopulorum*), Bellard's kobresia (*Kobresia myosuroides*), bluegrass, clover (*Trifolium* spp.), pussytoes (*Antennaria* spp.), sedge, spike trisetum, stonecrop (*Crassulaceae* spp.), tufted hairgrass (*Deschampsia cespitosa*), and willow.

Plant associations of local alpine communities have not been determined.

Aspen

Individual aspen trees and small groves or stands are found scattered among the conifer forests. Understory vegetation is typically richer and more luxuriant than in neighboring conifer stands. Common herbaceous understory plants in the larger aspen stands include American vetch (*Vicia americana*), aspen peavine (*Lathyrus leucanthus*), bluegrass, blue wildrye (*Elymus glaucus*), brome, Colorado columbine (*Aquilegia coerulea*), cow-pars-

nip (*Heracleum sphondylium*), elk sedge, Parry's goldenweed (*Oreochrysum parryi*), reedgrass (*Calamagrostis* spp.), Richardson's geranium (*Geranium richardsonii*), and strawberry. As with lodgepole and spruce-fir forests, the increase in understory species abundance and diversity following disturbance or tree removal can be dramatic.

Most aspen groves on the Forest exist as inclusions in large conifer stands and can be considered as components of the seral stages of the conifer plant communities. However, there is a large, apparently stable aspen community in the northern part of the Forest. It resembles the *Populus tremuloides*/*Heracleum sphondylium* plant association described in Hoffman and Alexander (1980) and Johnston (1987). Two other aspen associations that may occur on the Forest are *Populus tremuloides*/*Thalictrum fendleri* and *Populus tremuloides*/*Carex geyeri*. They are described in Hess and Alexander (1986) and Johnston (1987).

Riparian Areas, Seeps, Fens, and Carrs

A great diversity of plant species can be found along the streams and in seeps, fens, and carrs that dot the Forest. Along with wet aspen groves, plant growth is most luxurious in these areas. Twenty-eight vascular plant species have been observed within a 0.1-m² (1-ft²) area on a stream bank in a spruce-fir clearcut on the Fool Creek drainage. Heights of 1.8 m (6 ft) have been noted for various grass species in a wet area of a spruce-fir clearcut in the Deadhorse Creek drainage. Grasses, sedges, rushes (*Juncus* spp.), thinleaf alder (*Alnus incana* subsp. *tenuifolia*), bog birch (*Betula glandulosa*), willows and numerous forb species abound. American globe-flower (*Trollius albiflorus*), heartleaf brookcress (*Cardamine cordifolia*), and white marsh-marigold (*Psychrophila leptosepala*) are common forbs along streams at higher elevations.

Plant associations of local riparian communities have not been determined.

Sagebrush-steppe

Communities dominated by shrubs and grasses occur on glacial outwash and quaternary alluviums at low elevations (below 2440 m or 8000 ft) just outside Fraser Experimental Forest. These communities adjoin forested areas at lower tree line. It is possible that nonforested communities were more extensive and occurred within the present-day boundaries of the Forest during the warmest intervals of the Holocene Epoch. Today only a few, small mountain big sagebrush (*Seriphidium vaseyana*) communities occur within Fraser Experimental Forest. One such area, several acres in size, is located on both sides of the main entrance road, just north of the junction of Fool Creek Road. Other smaller sites are located nearby. Prevalent shrubs in this larger area are golden aster (*Heterotheca* spp.), mountain big sagebrush, Parry's rabbitbrush (*Chrysothamnus parryi*), and shrubby cinquefoil (*Pentaphylloides floribunda*).

⁴W.H. Moir, personal communication, 11 January 1993. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

Common grasses are bluegrass, Idaho fescue (*Festuca idahoensis*), and mountain muhly (*Muhlenbergia montana*). Showy herbaceous plants include flowery phlox (*Phlox multiflora*), Gunnison's sego-lily (*Calochortus gunnisonii*), harebell (*Campanula* spp.), monument plant (*Frasera speciosa*), Parry's gentian (*Pneumonanthe parryi*), slender crazyweed (*Oxytropis campestris* var. *gracilis*), and subalpine buckwheat (*Eriogonum subalpinum*).

This plant association has not been ascertained, but it appears similar to associations described by Tiedeman *et al.* (1987) that occur nearby in Middle Park.

Specialized Communities

Some specialized physiographic features and habitats existing on the Forest include alpine fellfields, rock outcrops, grass-forb mountain meadows, areas of late snow retention, drying pond edges, seeps, fens, and carrs. These areas offer a diversity of specific microhabitats in which uncommon plants or communities can occur.

Certain forested areas appear to be barely disturbed, with lodgepole pine stands older than 300 years and spruce-fir forests containing Engelmann spruce over 600 years old.⁵ Indeed, at present, these spruce appear to be the oldest trees of their species known to exist.⁶ One of the rarest plants recorded on the Forest—purple lady's slipper (*Cypripedium fasciculatum*)—appears restricted to undisturbed, old-aged spruce-fir forests, illustrating the potential of such areas to provide specialized habitats.

Land Use Impacts

Fire, timber harvest, water diversion, grazing, and recreation, have occurred on many portions of the Forest and have impacted the vegetation to varying degrees. Evidence of fire in the form of ground charcoal is frequently found. In historic times, 3 fires are known to have occurred: in the early 1800's on the upper one-third of the Fool Creek drainage and adjacent tree line areas; in 1907 on the far northern part of the Forest; and around 1915 between the Forest headquarters and the town of Fraser.

Portions of the Forest below 2,800 m (9,180 ft) were cut in the early 1900's and partial cutting continued in certain northern areas into the 1950's. Several areas in the Forest have been logged in more recent times for experimental purposes. Selected aspen, lodgepole, and spruce-fir sites have been logged with intensities ranging from light thinning to complete removal of the overstory. The most extensive cutting occurred in spruce-fir forests on the Fool Creek drainage in the mid 1950's (fig. 5) and on the Deadhorse Creek drainage in the 1970's and 1980's.

⁵Data on file at Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

⁶Peter Brown, personal communication, 6 January 1993. Laboratory of Tree Ring Research, University of Arizona, Tucson.

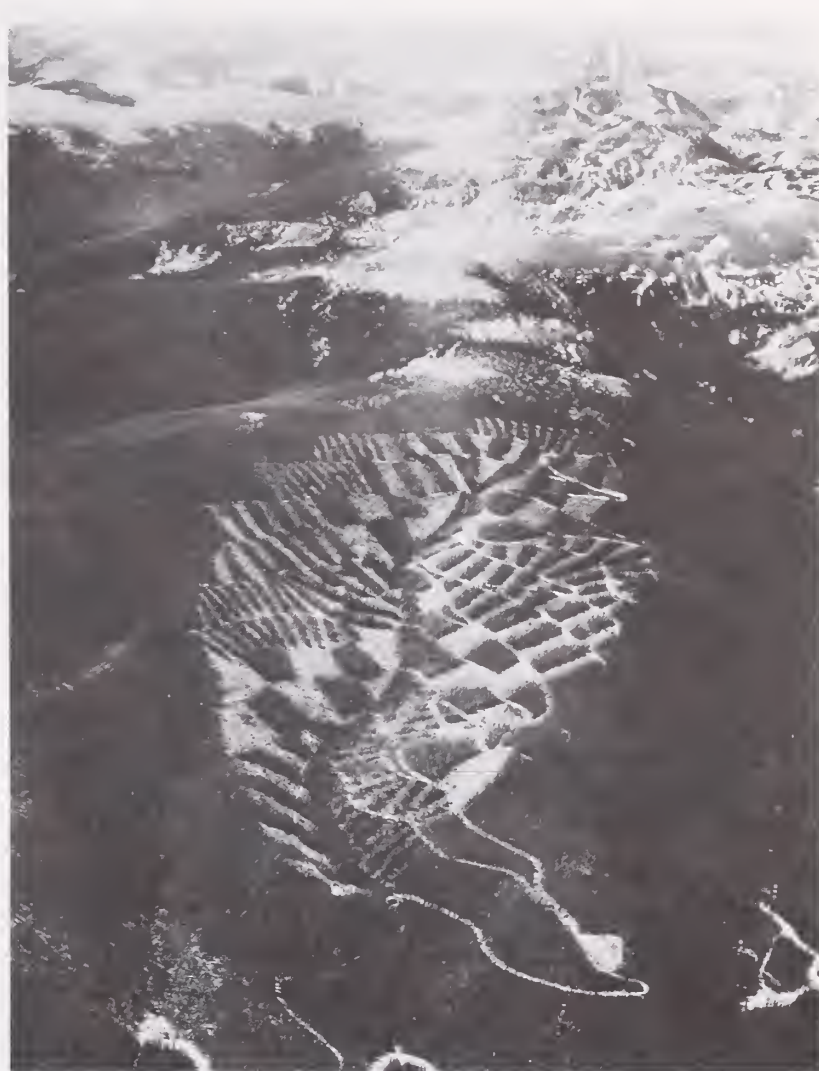


Figure 5. — Aerial view of upper Fool Creek, showing spruce-fir forests, overstory removal treatments, access roads, and alpine tundra.

Water is diverted from St. Louis Creek and its tributaries within the Forest to the Front Range and the City of Denver via a system of buried pipelines. The diversions markedly reduce water flow in some streams and may have affected the dependent downstream vegetation.

Cattle historically grazed the most accessible forestland while sheep grazed the alpine zone. Around 20 head of cattle currently may graze forested areas from July through September. Sheep may occasionally utilize alpine summer range along the southern boundary of the Forest.

Recreational use is increasing on the Forest, which exerts pressure on the vegetation. Trampling and off-road vehicle use are especially evident in the alpine zone.

FOREST FLORISTICS

The vascular plant checklist in this report documents all such taxa known by the Forest Service to occur on the Fraser Experimental Forest. A total of 441 taxa in 228 genera and 63 families have been recorded. They are distinguished at the infraspecific level. Forty-five species are adventive. Three are endemic to Colorado and sometimes portions of adjacent states. The sunflower family (Asteraceae) is represented the most, with 81 taxa, followed

by the grass family (Poaceae) with 72, the sedge family (Cyperaceae) with 26, the rose family (Rosaceae) with 19, and the mustard family (Brassicaceae) with 17. Taxa representing these five families account for nearly one-half of all documented plants. Twenty-four families are represented by only one taxon and ten families by two. The number of families represented by one or two taxa is almost halved if the plants are placed in their traditional families.

The Forest flora is not, generally speaking, markedly different from those in similar habitats of surrounding areas, including the Indian Peaks of the Front Range (Komarkova 1979); the Park Range and Mount Zirkel Wilderness Area (Kastning 1990); the Eagles Nest Wilderness Area of the southern Gore Range (Hogan 1992); and Rocky Mountain National Park (Weber 1992).

Purple-leaf groundsel (*Ligularia soldanella*), Rocky Mountain nailwort (*Paronchylia pulvinata*), and wood-rush (*Luzula subcapitata*) are endemic. The first two species are restricted to rocky areas of the alpine and upper subalpine, while the wood-rush occurs in wet areas at high elevations.

Three plants listed as species of special concern by the Colorado Natural Areas Program (1991) have been documented: arctic draba (*Draba fladnizensis*), mountain bladder fern (*Cystopteris montana*), and purple lady's slipper. These plants occur only sporadically across their ranges. The circumpolar arctic draba is rare in Colorado and adjacent states but more common farther north. Found in rocky areas on high peaks, it also occurs in Rocky Mountain National Park and San Juan County in the southwest portion of the state. The circumboreal bladder fern is a southern disjunct in Colorado, normally found as far south as lower British Columbia, northwest Montana, the north shores of Lake Superior, and Quebec. It inhabits wet, rich spruce-fir forests. Other state occurrences are in Rocky Mountain National Park and the San Juan and Uncompahgre National Forests of southwestern Colorado. Purple lady's slipper is found very sparingly in forests throughout the Western United States. The populations at Rocky Mountain National Park, Fraser Experimental Forest, and the Medicine Bow Mountains of southern Wyoming apparently constitute the most eastern distributions known.

Widely disjunct species and those at the edge of their range are often important from both an environmental and evolutionary perspective. The Forest currently serves as a refuge for these species because the amount of direct, human-caused habitat disturbance is low. Protection is not secured, however, because there are no directives to the Rocky Mountain Forest and Range Experiment Station to manage sensitive plants or habitats. Also, potential adverse impacts from research studies are not reviewed prior to project implementation. No federally listed threatened, endangered, or candidate plants are known to occur.

Species have been intermittently collected or reported since 1937, when K.E. Brown made the first known Forest Service collections. A moderately intensive survey of vascular plants was conducted below tree line by the senior

author of this report during the summers of 1985, 1986, and 1987. A portion of the survey sampled many sites in aspen, lodgepole pine, and spruce-fir plant communities which have undergone overstory removal of varying intensities between the 1950's and the 1970's. A range of species responding to disturbance in such communities is well represented. About 50 new taxa were also recorded, mostly from undisturbed areas, in the summers of 1991 and 1992.

Perhaps 85 percent of the vascular plants occurring on the Forest are documented. Unrecorded taxa are likely to be found in specialized habitats or above tree line. Alpine landscapes, most of the Forest's periphery, and extreme northern and southern areas have not been well explored. Some early spring and late summer plants have undoubtedly escaped detection.

Voucher specimens have been collected for the majority of species listed and are housed in a small working herbarium at the Rocky Mountain Forest and Range Experiment Station in Fort Collins, Colorado. Some specimens are also deposited at the University of Colorado Herbarium (COLO) in Boulder; the Rocky Mountain Herbarium (RM), University of Wyoming, in Laramie; and at the Colorado State University Herbarium (CS) in Fort Collins. Specimens have been verified by one of the following individuals: Robert D. Dorn, Charles Feddema, Harold D. Harrington, Ronald L. Hartman, Frederick J. Hermann, B.E. Nelson, William A. Weber, or Dieter H. Wilken. Taxa for which no voucher specimens exist have been reliably identified in the field.

Much research has been conducted on the Forest (Alexander *et al.* 1985). Numerous publications and graduate papers include partial species lists or contain discussions regarding vegetative attributes relative to specific study objectives. Understory response of nontree species to timber harvest is described in the wildlife habitat studies by Porter (1959a), Wallmo *et al.* (1972), Regelin and Wallmo (1978), and Crouch (1985, 1986, 1987). Studies by Paulsen (1960), Whipple (1973, 1975), and Whipple and Dix (1979) directly address the Forest plant communities and vegetation ecology.

The Forest continues to offer opportunities to study forest succession, plant community ecology, and specialized habitats. Old-aged stands, for example, could prove useful in modeling or validating old-growth definitions, ecosystem functions, or gap-dynamics. Research has been initiated on such subjects as dendrochronology, biological diversity, and fire ecology. Some cool, moist, old spruce-fir groves are exceptionally rich in understory species; it is not inconceivable that they harbor undocumented rare species or remnant communities.

COLORADO FLORAS PERTINENT TO THE FOREST

Taxonomy and nomenclature are not static; rather, they are subject to change as new information becomes avail-

able. The resulting discrepancies in plant names between old and new references can be confusing and frustrating. Ultimate adoption of a revised name or taxonomic status is at the discretion of the individual. A final, stabilized set of names will not likely exist, and should not, as long as plants continue to be studied.

Harrington's *Manual of the Plants of Colorado* (1954) was the first complete flora of the state of Colorado. Harrington wrote the book while he was a botany professor at Colorado State University, and it is still the only complete state treatment with keys and descriptions. This work was a remarkable feat, especially considering the limited funding and facilities at that time.

Our knowledge of Colorado plants has increased greatly since then, however, and recent floras such as William A. Weber's 1987 *Colorado Flora: Western Slope* present revisions and reflect new information. Familiarity with at least one of the above works, which are the most complete technical manuals for this locale, is a must for the individual who is serious about identifying plants on the Forest. For the many others who simply enjoy "botanizing" on a beautiful summer's day, a wide variety of wildflower field books and less exhaustive works is available.

USING THE CHECKLISTS

Names in the checklists follow the nomenclature, synonymy, and taxonomy presented in Weber and Wittmann's 1992 *Catalog of the Colorado Flora: A Biodiversity Baseline*. Although some of the catalog's taxonomic standings differ from tradition, it presents the most comprehensive and updated information available on Colorado flora.

The vascular plant checklist is organized by primary and alternate names. Primary names are the names preferred by Weber and Wittmann (1992) and are listed first. Alternate names are other names used by different references or authors which correspond to the same taxon; they are listed after the primary names. Primary names and taxonomic arrangements are not necessarily those pre-

ferred by the authors of this report or the USDA Forest Service.

Alternate plant names have been included from both *Colorado Flora: Western Slope* (Weber 1987) and *Manual of the Plants of Colorado* (Harrington 1954). The vascular checklist also includes alternate names appearing in all known previous publications, graduate papers, unpublished species lists, and documentation pertaining to the Forest as well as other selected names sometimes used in Colorado. Additional alternate names usually exist, some of which can be found in Weber and Wittmann (1992) and Harrington (1954). Indexes in the back of this report enable the reader to cross-reference alternate names with primary names.

Alternate names are not always true synonyms. For example, Harrington (1954) sometimes applied the name of a European plant to a New World plant, believing the plants to represent the same taxon based upon available data. Later, the New World plant was deemed a separate species and given a different name. In such a case, the names represent two distinctly separate plant entities and are not truly synonymous. Alternate names should be treated with the understanding that they are based on value judgements and current information, and as such, are subject to change.

This report's checklists are maintained at the Rocky Mountain Forest and Range Experiment Station on a computer database conducive to periodic updating. Information is welcomed regarding rare plants or plants that are not named in the report. To pass along information or to obtain published information about the Fraser Experimental Forest, send a request to Director, Rocky Mountain Forest and Range Experiment Station, 240 West Prospect, Fort Collins, Colorado, 80526. Access to the Station's working herbarium and computer database is available to interested persons at the Station's headquarters in Fort Collins. An electronic copy of the computer database is also available by mail.

If you visit the Forest, please respect ongoing research study areas and help minimize damage to fragile ecosystems. Become informed of visitor use regulations, curtail vehicle or mountain bike use to established roads, and refrain from unscrupulous plant collecting.

VASCULAR PLANT CHECKLIST

Arrangement of Names

Names are arranged alphabetically by family, genus, and species and are grouped by ferns and fern allies, gymnosperms, and angiosperms. Family names are followed by a three-letter abbreviation. Plant primary names are in bold; alternate names are in italics and are indented below the primary names. Names follow nomenclature, synonymy, and taxonomy presented in Weber and Wittmann (1992). A few alternate names are not found in Weber and Wittmann (1992); their nomenclature is from Harrington (1954), Weber (1987), or Dorn (1988). A not-equal-to sign (\neq) preceding an alternate name signifies that it is not considered truly synonymous with the primary name. Common names are in the right-hand column and follow vernacular used in Colorado. Common names vary greatly among individuals and among regions.

Source of Information

The following indicators are used to identify the source of given information:

- HDH54 Names appearing in Harrington (1954), not including his synonymy listings.
- WAW87 Names appearing in Weber (1987).
- Names with no reference appear in various publications, graduate papers, and other documentation that pertains to the Forest; synonymy listings in Harrington (1954); or Dorn (1988).
- (COLO) Taxa verified by specimens deposited only at the University of Colorado Herbarium, Boulder.
- (field obs.) Taxa observed in the field, but not collected.
- Specimens for all other taxa are housed at the Rocky Mountain Station's herbarium, in Fort Collins, with some duplicate specimens also located in university herbaria in Boulder (COLO), Fort Collins (CS) and Laramie (RM).

Habitat

Habitats in which species are known to occur on the Forest appear after the primary names. Plants can usually be found outside listed habitats. Each habitat is abbreviated, e.g. 7a, meaning wet areas at low elevations. Adventive and endemic species are also noted. A key to habitats follows below:

- 1 - Lodgepole pine forests
- 2 - Spruce-fir forests
- 3 - Alpine, alpine-subalpine interface
- 4 - Aspen groves
- 5 - Sagebrush-steppe communities
- 6 - Mountain meadows/natural forest openings
- 7 - Riparian areas, seeps, willow carrs, other moist sites
- 8 - Disturbed/compacted soil, roadsides, ditches, seedings
- 9 - Rocky areas, scree, dry slopes, bare soil
- a - Low elevation
- b - Mid-high elevations below tree line
- c - Above tree line

Family Abbreviations

Abbreviations for family names are listed below. The number of taxa documented in each family is in parentheses.

ADX	Adoxaceae (1)	CPR	Caprifoliaceae (3)	IRI	Iridaceae (1)	POR	Portulacaceae (1)
ALL	Alliaceae (2)	CRS	Crassulaceae (3)	JUN	Juncaceae (9)	PRM	Primulaceae (2)
API	Apiaceae (9)	CRY	Caryophyllaceae (5)	LAM	Lamiaceae (1)	PTG	Plantaginaceae (1)
ASN	Alsinaceae (10)	CUP	Cupressaceae (1)	LIL	Liliaceae (1)	PYR	Pyrolaceae (6)
AST	Asteraceae (81)	CVL	Convallariaceae (1)	LIN	Linaceae (1)	RAN	Ranunculaceae (8)
ATY	Athyriaceae (1)	CYP	Cyperaceae (26)	LYC	Lycopodiaceae (1)	ROS	Rosaceae (19)
BER	Berberidaceae (1)	ELE	Elaeagnaceae (1)	MLN	Melanthiaceae (2)	RUB	Rubiaceae (4)
BET	Betulaceae (2)	EQU	Equisetaceae (2)	MLV	Malvaceae (1)	SAL	Salicaceae (13)
BOR	Boraginaceae (4)	ERI	Ericaceae (6)	MNT	Monotropaceae (1)	SAX	Saxifragaceae (8)
BRA	Brassicaceae (17)	FAB	Fabaceae (16)	ONA	Onagraceae (11)	SCR	Scrophulariaceae (16)
CAM	Campanulaceae (2)	FUM	Fumariaceae (1)	ORC	Orchidaceae (10)	SEL	Selaginellaceae (1)
CCT	Calochortaceae (1)	GEN	Gentianaceae (7)	PAR	Parnassiaceae (2)	UVU	Uvulariaceae (1)
CEL	Celastraceae (1)	GER	Geraniaceae (1)	PIN	Pinaceae (4)	VAL	Valerianaceae (2)
CHN	Chenopodiaceae (2)	GRS	Grossulariaceae (4)	PLG	Polygonaceae (7)	VIO	Violaceae (6)
COP	Coptaceae (1)	HEL	Helleboraceae (8)	PLM	Polemoniaceae (5)	VIS	Viscaceae (1)
CPD	Cypripediaceae (1)	HYD	Hydrophyllaceae (2)	POA	Poaceae (72)		

FERNS and FERN ALLIES

ATHYRIACEAE--ATHYRIUM or LADY FERN FAMILY (ATY)
(traditionally under Polypodiaceae)

Cystopteris montana (Lamarck) Bernhardt ex Desvaux:HDH54,WAW87. 2. (COLO) Brittle Fern; Mountain Bladder Fern

EQUISETACEAE--HORSETAIL FAMILY (EQU)

Equisetum arvense L.:HDH54,WAW87. 7ab. Common or Field Horsetail
Hippochaete hyemalis (L.) Bruhin. 7ab. Common or Perennial Scouring-rush
Equisetum hyemale L.:HDH54

Hippochaete hyemalis (L.) Bruhin subsp. affinis (A. Braun) W.A. Weber:WAW87

LYCOPODIACEAE--CLUB-MOSS FAMILY (LYC)

Lycopodium annotinum L.:HDH54,WAW87. 2. (COLO) Stiff Club-moss

SELAGINELLACEAE--LITTLE CLUB-MOSS FAMILY (SEL)

Selaginella densa Rydberg:HDH54,WAW87. 9. (COLO) Little Club-moss; Rock Selaginella

GYMNOSPERMS

CUPRESSACEAE--CYPRESS FAMILY (CUP)
(traditionally under Pinaceae)

Juniperus communis L. subsp. alpina (J.E. Smith) Celakovsky:WAW87. 1,2. Common or Dwarf Juniper
J. communis L. var. montana Aiton:HDH54
J. communis L. var. saxatilis Pallas:HDH54

PINACEAE--PINE FAMILY (PIN)
(see also CUP)

Abies lasiocarpa (Hooker) Nuttall:HDH54,WAW87. 1-3. Subalpine Fir
Picea engelmannii Parry ex Engelmann:HDH54,WAW87. 1-3. (field obs.) Engelmann Spruce

Pinus contorta Douglas ex Loudon var. *latifolia* Engelm.: HDH54. 1,2. (field obs.)
P. contorta Douglas ex Loudon subsp. *latifolia* (Engelmann) Critchfield: WAW87
Pseudotsuga menziesii (Mirbel) Franco: WAW87. 1,2. (field obs.)
P. taxifolia (Poiret) Britton: HDH54

Lodgepole Pine
 Douglas-fir

ANGIOSPERMS

ADOXACEAE--ADOXA FAMILY (ADX)

Adoxa moschatellina L.: HDH54, WAW87. 7bc. (COLO)

Moschatel; Muskroot

ALLIACEAE--ONION FAMILY (ALL) (traditionally under Liliaceae)

Allium L., species not determined: HDH54, WAW87. 1a,5. (field obs.)
Allium brevistylum S. Watson: HDH54, WAW87. 4a. (COLO)

Wild Onion
 Shortstyle Onion

ALSINACEAE--CHICKWEED FAMILY (ASN) (traditionally under Caryophyllaceae)

Cerastium fontanum Baumgartner: WAW87. 8. Adventive.

C. vulgatum L. var. *hirsutum* E. Fries: HDH54

Cerastium strictum L. *emend.* Haenke: WAW87. 6.

≠ *C. arvense* L.: HDH54

Eremogone fendleri (A. Gray) Ikonnikov: WAW87. 1-3. (field obs.)

Arenaria fendleri A. Gray, var. not determined: HDH54

Lidia obtusiloba (Rydberg) Löve & Löve: WAW87. 3.

Arenaria obtusiloba (Rydberg) Fernald: HDH54

Moehringia lateriflora (L.) Fenzl: WAW87. 7ab. (COLO)

Arenaria lateriflora L.: HDH54

Paronychia pulvinata A. Gray: HDH54, WAW87. 3. Endemic. (field obs.)

Sagina saginoides (L.) Karsten: HDH54, WAW87. 2,3,8,b. (COLO)

Spergularia rubra (L.) J. & K. Presl: HDH54, WAW87. 8b. Adventive.

Stellaria longipes Goldie: HDH54 (as the species). 7ab.

S. longipes Goldie subsp. *stricta* (Rydberg) W.A. Weber: WAW87

Stellaria umbellata Turczaninov ex Karlin & Kirilow: HDH54, WAW87. 2,3,7.

Big Cerastium or Mouse-ear
 Common Cerastium; Field Mouse-ear
 Desert or Fendler's Sandwort
 Alpine or Arctic Sandwort
 Bluntleaf or Grove Sandwort
 Alpine or Rocky Mtn. Nailwort
 Arctic Pearlwort
 Red Sand Spurrey
 Long-stalk Starwort or Stitchwort
 Chickweed; Umbellate Starwort

APIACEAE/UMBELLIFERAE--PARSLEY FAMILY (API)

Angelica grayi (Coulter & Rose) Coulter & Rose:HDH54, WAW87. 2.
Carum carvi L.:HDH54, WAW87. 1a,8. Adventive.
Conioselinum scopulorum (A. Gray) Coulter & Rose:HDH54, WAW87. 1,2,4.
Heracleum sphondylium L. subsp. **montanum** (Schleicher ex Gaudin) Briquet in Schinz & Thellung:WAW87. 4,7,ab.
H. lanatum Michaux:HDH54
H. sphondylium L. var. *lanatum* (Michaux) Dom
Ligusticum porteri Coulter & Rose:HDH54, WAW87. 4. (field obs.)
Oreoxis alpina (A. Gray) Coulter & Rose subsp. **alpina**:HDH54, WAW87. 3.
Cymopterus alpinus A. Gray
Osmorhiza depauperata Philippi:WAW87. 1,2,4.
O. obtusa (Coulter & Rose) Fernald:HDH54
Oxypolis fendleri (A. Gray) Heller:HDH54, WAW87. 1,2,4,7,ab.
Pseudocymopterus montanus (A. Gray) Coulter & Rose:HDH54, WAW87. 1,2,4,5.
Cymopterus lemmonii (Coulter & Rose) Dom

Gray's Angelica
 Caraway
 Rocky Mtn. Hemlock-parsley
 Common Cow-parsnip

Lovage; Osha; Porter's Ligusticum
 Alpine Oreoxis or Parsley

Bluntseed Sweetroot; Sweet Cicely

Fendler's Cowbane
 Mountain Parsley

ASTERACEAE/COMPOSITAE--ASTER or SUNFLOWER FAMILY (AST)

Achillea lanulosa Nuttall:HDH54(as the species), WAW87. 1-8.
A. millefolium L. subsp. *lanulosa* (Nuttall) Piper
Agoseris aurantiaca (Hooker) Greene:HDH54, WAW87. 4a. (COLO)
Agoseris glauca (Pursh) Rafinesque var. *dasycephala* (Torrey & Gray) Jepson:HDH54, WAW87. 6.
Agoseris glauca (Pursh) Rafinesque var. *glauca*. 4a. (COLO) See comment in Weber and Wittmann.
 Subsumed under other varieties:HDH54, WAW87
Anaphalis margaritacea (L.) Bentham & Hooker:HDH54, WAW87. 6,8.
Antennaria media Greene:HDH54, WAW87. 2.
 ≠ *A. alpina* L. See comment in Weber and Wittmann.
A. alpina (L.) Gaertner var. *media* (Greene) Jepson
Antennaria microphylla Rydberg:HDH54, WAW87. 5,6.
Antennaria parvifolia Nuttall:HDH54, WAW87. 4,6.
Antennaria rosea Greene:HDH54, WAW87. 1-8.
Antennaria umbrinella Rydberg:HDH54, WAW87. 6b.
Arnica cordifolia Hooker:HDH54, WAW87. 1,2.
Arnica latifolia Bongard:HDH54, WAW87. 1,2,7,b.
Arnica mollis Hooker:HDH54, WAW87. 2.
Arnica parryi A. Gray:HDH54, WAW87. 6b.
Arnica rydbergii Greene:HDH54, WAW87. 9bc.

Western Yarrow; Yarrow

Orange Agoseris or False Dandelion
 Pale Mtn. Agoseris or False Dandelion
 Pale Agoseris or False Dandelion

Pearly Everlasting
 Alpine Pussytoes

Littleleaf Pussytoes
 Nuttall's Pussytoes
 Rose Pussytoes

Mountain or Umber Pussytoes
 Heartleaf Arnica
 Broadleaf Arnica
 Hairy Arnica

Parry's or Rayless Arnica
 Rydberg's Arnica

- Artemisia arctica* Lessing subsp. *saxicola* (Rydberg) Hultén:WAW87. 3.
 ≠ *A. norvegica* E. Fries. See comment in Weber and Wittmann.
A. norvegica E. Fries subsp. *saxitilis* (Besser) Hall & Clements:HDH54. See comment in Weber and Wittmann.
Artemisia frigida Willdenow:HDH54, WAW87. 4a,5. (field obs.)
Artemisia ludoviciana Nuttall subsp. *ludoviciana*:HDH54, WAW87. 4a,5. (field obs.)
Artemisia scopulorum A. Gray:HDH54, WAW87. 3.
Aster foliaceus Lindley ex De Candolle var. *foliaceus*:HDH54, WAW87. 1,2,4,6,7,ab.
A. foliaceus Lindley ex De Candolle var. *frondeus* A. Gray:HDH54
A. foliaceus Lindley ex De Candolle var. *parryi* (Eaton) A. Gray
Aster lanceolatus Willdenow subsp. *hesperius* (A. Gray) Semple & Chmielewski. 6a.
A. hesperius A. Gray:HDH54(var. not determined), WAW87
Aster spatulatus Lindley ex De Candolle. 6.
A. occidentalis (Nuttall) Torrey & Gray:HDH54, WAW87
Chlorocrepis albiflora (Hooker) W.A. Weber:WAW87. 1,2.
Hieracium albiflorum Hooker:HDH54
Chlorocrepis tristis (Willdenow ex Sprengel) Löve & Löve subsp. *gracilis* (Hooker) W.A. Weber:WAW87. 1,2.
Hieracium gracile Hooker:HDH54
Chrysothamnus parryi (A. Gray) Greene subsp. *parryi*:HDH54, WAW87. 5.
Cirsium arvense (L.) Scopoli:HDH54(as the species), WAW87. 8. Adventive.
Cirsium centaureae (Rydberg) K. Schumann:HDH54, WAW87. 1,2,8.
Cirsium coloradense (Rydberg) Cockerell:WAW87. 6-8.
 ≠ *C. drummondii* Torrey & Gray var. *drummondii*:HDH54. See comment in Weber and Wittmann.
C. tiogonum (Congdon) Petrak var. *coloradense* (Rydberg) Don
Cirsium eatonii (A. Gray) B.L. Robinson:HDH54, WAW87. 2b,4.
Erigeron coulteri T.C. Porter:HDH54, WAW87. 2,4,7.
Erigeron elatior (A. Gray) Greene:HDH54, WAW87. 2,4.
Erigeron elongatus Ledebour:WAW87. 6,9b.
E. acre L. var. *asteroides* (Andrzejowski) De Candolle, alternately spelled *E. acris*:HDH54
Erigeron eximius Greene:WAW87. 2,4.
E. superbus Greene ex Rydberg:HDH54
Erigeron flagellaris A. Gray:WAW87. 5. (field obs.)
E. flagellaris A. Gray var. *typica* Cronquist:HDH54
Erigeron formosissimus Greene var. *viscidus* (Rydberg) Cronquist:HDH54, WAW87(no infraspecific treatment). 6.
Erigeron glabellus Nuttall:WAW87. 6.
E. glabellus Nuttall subsp. *pubescens* (Hooker) Cronquist:HDH54.
Erigeron grandiflorus Hooker:WAW87. 3.
 Subsumed under *E. simplex* Greene:HDH54
Erigeron melanocephalus A. Nelson:HDH54, WAW87. 2,3,6.
- Arctic Sage, Sagebrush or Sagewort
 Fringed or Pasture Sage, Sagebrush or Sagewort
 Louisiana Sage, Sagebrush or Sagewort
 Alpine or Rocky Mtn. Sage, Sagebrush or Sagewort
 Leafybract Aster
 Panicked or Siskiyou Aster
 Western Aster
 White Hawkweed
 Alpine or Slender Hawkweed
 Parry's Rabbitbrush
 Canada Thistle
 Thistle
 Colorado Thistle
 Thistle
 Coulter's Daisy or Fleabane
 Tall Daisy or Fleabane
 Northern Daisy; Bitter Fleabane
 Forest Daisy or Fleabane
 Trailing Daisy or Fleabane
 Viscid Daisy or Fleabane
 Smooth Daisy or Fleabane
 Large-flowered Daisy or Fleabane
 Blackheaded Daisy or Fleabane

Erigeron peregrinus (Banks ex Pursh) Greene subsp. <i>callianthemus</i> (Greene) Cronquist:HDH54, WAW87. 6.	Peregrine Daisy or Fleabane
Erigeron pinnatisectus (A. Gray) A. Nelson:HDH54, WAW87. 3.	Pinnate Daisy or Fleabane
Erigeron simplex Greene:HDH54, WAW87. 3.	One-flower or Alpine Daisy; One-stemmed Fleabane
Erigeron speciosus (Lindley) De Candolle var. <i>speciosus</i> :HDH54, WAW87. 1,2,4-7.	Aspen, Oregon or Showy Daisy or Fleabane
Erigeron subtrinervis Rydberg:HDH54, WAW87. 1,2,4-7.	Threenerve Daisy or Fleabane
Gnaphalium uliginosum L.:HDH54. 8a.	Low or Marsh Cudweed or Gnaphalium
<i>Filaginella uliginosa</i> (L.) Opiz:WAW87	
Helianthella quinquenervis (Hooker) A. Gray:HDH54, WAW87. 4,5.	Fivenerve or Nodding Helianthella
Heterotheca pumila (Greene) Semple. 5. (COLO)	Golden Aster
Subsumed under <i>Chrysopsis villosa</i> (Pursh) Nuttall ex De Candolle:HDH54	
Subsumed under <i>Heterotheca villosa</i> (Pursh) Shinnars: WAW87	
Heterotheca villosa (Pursh) Shinnars var. <i>villosa</i> :WAW87. 5.	Hairy Golden Aster
<i>Chrysopsis villosa</i> (Pursh) Nuttall ex De Candolle:HDH54	
Lactuca L., species not determined:HDH54, WAW87. 1a,5. (field obs.)	Prickly or Wild Lettuce
Leucanthemum vulgare Lamarck:WAW87. 5,8a. Adventive.	Ox-eye Daisy
<i>Chrysanthemum leucanthemum</i> L. var. <i>pinnatifidum</i> Lecoq & Lamotte:HDH54	
Ligularia amplexans (A. Gray) W.A. Weber:WAW87. 2,6.	Showy Alpine or Claspng Groundsel
<i>Senecio amplexans</i> A. Gray var. <i>amplexans</i> :HDH54	
Ligularia bigelovii (A. Gray) W.A. Weber var. <i>hallii</i> (A. Gray) W.A. Weber:WAW87(no infraspecific treatment). 4.	Bigelow's Groundsel
≠ <i>Senecio bigelovii</i> A. Gray in Torrey var. <i>bigelovii</i> :HDH54. See comment in Weber and Wittmann.	
<i>S. bigelovii</i> A. Gray in Torrey var. <i>hallii</i> A. Gray:HDH54	
Ligularia soldanella (A. Gray) W.A. Weber:WAW87. 9c. Endemic.	Purple-leaf or Singlehead Groundsel
<i>Senecio soldanella</i> A. Gray:HDH54	
Madia glomerata Hooker:HDH54, WAW87. 4,8,a. Adventive.	Cluster Tarweed
Matricaria perforata Merat:WAW87. 8ab. Adventive.	Scentless Mayweed; Wild-chamomile
<i>M. inodora</i> L.:HDH54	
Oreochrysum parryi (A. Gray) Rydberg:WAW87. 1,2,4.	Parry's Goldenweed
<i>Haplopappus parryi</i> A. Gray:HDH54	
<i>Solidago parryi</i> Greene	
Packera cana (Hooker) Weber & Löve:WAW87. 2,3.	Woolly Groundsel
<i>Senecio canus</i> Hooker:HDH54	
<i>S. canus</i> Hooker var. <i>purshianus</i> Nuttall	
<i>S. purshianus</i> Nuttall:HDH54	
Packera crocata (Rydberg) Weber & Löve:WAW87. 7ab.	
<i>Senecio crocatus</i> Rydberg:HDH54	
Packera dimorphophylla (Greene) Weber & Löve subsp. <i>dimorphophylla</i> :WAW87. 4,6.	Saffron Groundsel
<i>Senecio dimorphophyllus</i> Greene:HDH54	Different or Variflower Groundsel

<i>Packera streptanthifolia</i> (Greene) Weber & Löve:WAW87. 1.	Rocky Mtn. Butterweed; Cleft-leaved or Fewleaf Groundsel
<i>Senecio cymbalarioides</i> Nuttall:HDH54	
<i>Packera wernerifolia</i> (A. Gray) Weber & Löve:WAW87. 9bc.	Alpine or Rock Butterweed or Groundsel
<i>Senecio saxosus</i> Klatt:HDH54	
<i>S. wernerifolius</i> (A. Gray) A. Gray var. <i>wernerifolius</i> :HDH54	
<i>Pseudognaphalium stramineum</i> (Humboldt, Bonpland & Kunth) W.A. Weber. 8ab. Adventive.	Sticky Cudweed; Gnaphalium
<i>Gnaphalium macounii</i> Greene:HDH54	
<i>G. viscosum</i> Humbolt, Bonpland & Kunth:WAW87	
<i>Psilochenia acuminata</i> (Nuttall) W.A. Weber:WAW87. 1. (field obs.)	Beaked or Tapertip Hawksbeard
<i>Crepis acuminata</i> Nuttall subsp. <i>acuminata</i> :HDH54	
<i>Rydbergia grandiflora</i> (Torrey & Gray) Greene:WAW87. 3.	Old-man-of-the-mountain; Alpine Sunflower
<i>Hymenoxys grandiflora</i> (Torrey & Gray) Parker:HDH54	
<i>Senecio atratus</i> Greene:HDH54, WAW87. 9ab.	Black Groundsel or Ragwort
<i>Senecio crassulus</i> A. Gray:HDH54, WAW87. 1,2,6.	Thickleaf Groundsel or Ragwort
<i>Senecio eremophilus</i> Richardson subsp. <i>kingii</i> (Rydberg) Douglas & Ruyle-Douglas:WAW87. 8,9,ab.	Desert Groundsel; Dryland Ragwort
<i>S. ambrosioides</i> Rydberg:HDH54	
<i>Senecio fremontii</i> Torrey & Gray subsp. <i>blitoides</i> (Greene) W.A. Weber:WAW87. 2,9,b.	Fremont's Groundsel
<i>S. carthamoides</i> Greene:HDH54	
<i>Senecio integerrimus</i> Nuttall:HDH54, WAW87. 7,9,b. (COLO)	Western Groundsel; Lamb's Tongue
<i>Senecio serra</i> Hooker var. <i>admirabilis</i> (Greene) A. Nelson:WAW87. 7ab.	Tall Butterweed or Groundsel; Toothed Ragwort
≠ Not distinguished from <i>S. serra</i> Hooker var. <i>serra</i> :HDH54	
<i>Senecio triangularis</i> Hooker:HDH54, WAW87. 7ab.	Arrowleaf Groundsel or Ragwort
<i>Senecio wootonii</i> Greene:HDH54, WAW87. 2.	Wooton's Groundsel
<i>Seriphidium canum</i> (Pursh) W.A. Weber:WAW87. 5.	Hoary or Silver Sagebrush; Wormwood
<i>Artemisia cana</i> Pursh:HDH54	
<i>A. cana</i> Pursh var. <i>viscidula</i> Osterhout	
<i>Seriphidium vaseyanum</i> (Rydberg) W.A. Weber:WAW87. 5.	Mountain Big Sagebrush; Wormwood
Subsumed under <i>Artemisia tridentata</i> Nuttall subsp. <i>tridentata</i> :HDH54	
<i>Artemisia tridentata</i> Nuttall subsp. <i>vaseyana</i> (Rydberg) Beetle	
<i>A. vaseyana</i> Rydberg	
<i>Solidago missouriensis</i> Nuttall:HDH54, WAW87. 5.	Missouri or Smooth Goldenrod
<i>Solidago multiradiata</i> Aiton var. <i>scopulorum</i> A. Gray. 6,9.	Mountain or Northern Goldenrod
<i>S. ciliosa</i> Greene:HDH54	
<i>S. multiradiata</i> Aiton subsp. <i>scopulorum</i> (A. Gray) W.A. Weber:WAW87	
<i>Solidago spathulata</i> De Candolle var. <i>neomexicana</i> (A. Gray) Cronquist:WAW87. 1,2.	
<i>S. decumbens</i> Greene var. <i>oreophila</i> (Rydberg) Fernald:HDH54	Dune Goldenrod

Sonchus uliginosus Bieberstein:WAW87. 8. Adventive.

S. arvensis L. subsp. *glabrescens* Guenther

S. arvensis L. var. *glabrescens* (Guenther) Grabowski & Wimmer:HDH54

Taraxacum officinale G.H. Weber ex Wiggers:HDH54, WAW87. 1,7,8, a. Adventive.

Tonestus pygmaeus (Torrey & Gray) A. Nelson:WAW87. 9c.

Haplopappus pygmaeus (Torrey & Gray) A. Gray:HDH54

Tragopogon dubius Scopoli subsp. *major* (Jacquin) Vollmann:HDH54, WAW87. 1,8, a. Adventive.

Virgulastrum ascendens (Lindley ex Hooker) Semple, alternately spelled *V. ascendens*. 8,9, ab.

Aster ascendens Lindley in Hooker, alternately spelled *A. ascendens*:HDH54, WAW87

Marsh or Swamp Sow-thistle

Common Dandelion
Dwarf Goldenweed

Yellow Goatsbeard; Oyster-plant; Salsify
Longleaf Aster

BERBERIDACEAE--BARBERRY FAMILY (BER)

Mahonia repens (Lindley) G. Don:WAW87. 1,2.

Berberis repens Lindley:HDH54

Hollygrape; Creeping Mahonia; Oregon-grape

BETULACEAE--BIRCH FAMILY (BET)

(under Corylaceae in some manuals)

Alnus incana (L.) Moench subsp. *tenuifolia* (Nuttall) Breitung:WAW87. 7ab.

A. tenuifolia Nuttall:HDH54

Betula glandulosa Michaux:HDH54, WAW87. 7ab.

Mountain or Thinleaf Alder

Bog or Scrub Birch

BORAGINACEAE--BORAGE FAMILY (BOR)

Eritrichum aretioides (Chamisso) De Candolle, alternately spelled *Eritrichium*:WAW87. 9bc.

E. elongatum (Rydberg) W.F. Wight var. *argenteum* (W.F. Wight) Johnston:HDH54

E. nanum (Villars) Schrader ex Gaudin var. *elongatum* (Rydberg) Cronquist

Hackelia floribunda (Lehmann) I.M. Johnston:HDH54, WAW87. 1,5,6,8, ab.

Mertensia ciliata (James ex Torrey) G. Don:HDH54, WAW87. 7abc.

Mertensia lanceolata (Pursh) A. De Candolle var. *viridis* A. Nelson:WAW87(no infraspecific treatment). 2,3.

M. viridis (A. Nelson) A. Nelson var. *cana* (Rydberg) L. Williams:HDH54

M. viridis (A. Nelson) A. Nelson var. *viridis*:HDH54

Alpine Forget-me-not

Many-flowered Stickweed
Broadleaf, Ciliate or Mountain Bluebells
Green- or Lanceleaf Bluebells

BRASSICACEAE/CRUCIFERAE--MUSTARD FAMILY (BRA)

Arabis hirsuta (L.) Scopoli var. *pycnocarpa* (Hopkins) Rollins:HDH54, WAW87(no infrasp. treatment). 6,8, ab.

Barbarea vulgaris R. Brown:WAW87. 8ab. Adventive.

No treatment; escaped detection by author:HDH54

Common Hairy Arabis or Rock Cress
Bitter Winter Cress

- Boechea drummondii* (A. Gray) Löve & Löve: WAW87. 1,2,6.
Arabis drummondii A. Gray: HDH54
- Boechea retrofracta* (R. Graham) Löve & Löve: WAW87. 1,2,6.
Arabis holboellii Hornemann var. *pinetorum* (Tidestrom) Rollins: HDH54
A. holboellii Hornemann var. *retrofracta* (R. Graham) Rydberg: HDH54
- Cardamine cordifolia* A. Gray: HDH54, WAW87. 4,7abc.
Descurainia incana (Bernhardi ex Fischer & Meyer) Dorn. 1,4,a.
D. richardsonii (Sweet) O.E. Schulz, no infraspecific treatment: WAW87. See comment in Weber and Wittmann.
D. richardsonii (Sweet) O.E. Schulz subsp. *incisa* (Engelmann) Detling: HDH54
- Descurainia pinnata* (Walter) Britton: WAW87. 1,4,a.
D. pinnata (Walter) Britton subsp. *nelsonii* (Rydberg) Detling: HDH54
- Draba albertina* Greene: WAW87. 1,2,7,ab.
D. stenoloba Ledebour var. *nana* (O.E. Schulz) C.L. Hitchcock: HDH54
- Draba crassifolia* R. Graham: HDH54, WAW87. 9abc.
Draba fladnizensis Wulfen: HDH54, WAW87. 9c.
Draba nemorosa L.: HDH54, WAW87. 8ab. Adventive.
Draba streptocarpa A. Gray: HDH54 (as the species), WAW87. 1,2,6.
Lepidium ramosissimum A. Nelson: HDH54, WAW87. 8.
Lesquerella montana (A. Gray) S. Watson: HDH54. 2.
No treatment; escaped detection by author: WAW87. See comment in Weber under L. rectipes Wooten & Standley.
- Nocca montana* (L.) F.K. Meyer: WAW87. 2.
≠ *Thlaspi alpestre* L.: HDH54. See comment in Weber and Wittmann.
T. montanum L.
- Smelowskia calycina* (Stephan ex Willdenow) C.A. Meyer: HDH54, WAW87. 9c.
Turritis glabra L.: WAW87. 8. Adventive.
Arabis glabra (L.) Bernhardi: HDH54
- Drummond's False-arabis or Rock Cress
- Rose False-arabis or Rock Cress
- Heartleaf Bitter Cress; Brook-cress
Richardson's Flixweed or Tansymustard
- Pinnate Flixweed or Tansymustard
- Hairy Draba or Whitlow-wort
- Hairy Draba or Whitlow-wort
Arctic Draba or Whitlow-wort
Wood's Draba or Whitlow-wort
Draba or Whitlow-wort
Branched Peppergrass
Low Bladderpod
- Wild Candytuft; Mtn. Pennycress
- Alpine or Siberian Smelowskia
Tower Mustard

Calochortus gunnisonii S. Watson: HDH54, WAW87. 5. Gunnison's Mariposa or Sego-lily

CALOCHORTACEAE--MARIPOSA FAMILY (CCT) (traditionally under Liliaceae)

CAMPANULACEAE--BELLFLOWER FAMILY (CAM)

Campanula parryi A. Gray: HDH54, WAW87. 5. Parry's Bellflower or Harebell
Campanula rotundifolia L.: HDH54, WAW87. 4,5. Common or Mountain Bellflower or Harebell

CAPRIFOLIACEAE--HONEYSUCKLE FAMILY (CPR)

Distegia involucrata (Banks ex Sprengel) Cockerell:WAW87. 7ab.

Loniceria involucrata Banks ex Sprengel:HDH54

Linnaea borealis L. subsp. *americana* (Forbes) Hultén ex Clausen:WAW87(no infraspecific treatment). 1,2,4. American Twinflower

L. borealis L. var. *americana* (Forbes) Rehder:HDH54

Sambucus microbotrys Rydberg. 7ab.

S. melanocarpa A. Gray

≠*S. pubens* Michaux:HDH54. See comment in Weber and Wittmann.

S. racemosa L. subsp. *pubens* (Michaux) House var. *microbotrys* (Rydberg) Kearney & Peebles:WAW87

≠*S. racemosa* L. subsp. *racemosa*. See comment in Weber and Wittmann under above subspecies.

Bearberry or Bush Honeysuckle; Black Twinberry

American Twinflower

Bunch- or Red-berried Elder; Mountain Red Elderberry

CARYOPHYLLACEAE--PINK FAMILY (CRY)

(see also ASN)

Anotites menziesii (Hooker) Greene:WAW87. 1,4.

Silene menziesii Hooker:HDH54

Gastrolychnis drummondii (Hooker) Löve & Löve:WAW87. 1,2,4.

Lychnis drummondii (Hooker) S. Watson:HDH54

Melandrium drummondii (Hooker) Porsild

Silene drummondii Hooker

Melandrium dioicum (L.) Cosson & Germain:WAW87. 6. Adventive.

Lychnis alba P. Miller:HDH54

Silene latifolia Poirét subsp. *alba* (P. Miller) Greuter & Burdet

Silene acaulis (L.) L. subsp. *subacaulescens* (F.N. Williams) Hitchcock & Maguire:HDH54. 3.

Subspecies misspelled as *acaulescens*:WAW87

Silene vulgaris (Moench) Garcke:WAW87. 8a. Adventive. (field obs.)

S. cucubalus Wibel:HDH54

Menzie's Campion or Catchfly

Alpine or Drummond's Campion or Catchfly

Evening or White Campion or Catchfly

Moss Campion or Catchfly; Moss Pink

Campion; Catchfly

CELASTRACEAE--STAFF TREE FAMILY (CEL)

Paxistima myrsinites (Pursh) Rafinesque, alternately spelled *Pachystima*:HDH54,WAW87. 1,2.

Boxleaf; Mountain-lover; Myrtle Pachystima

CHENOPODIACEAE--GOOSEFOOT FAMILY (CHN)

Chenopodium capitatum (L.) Ascherson:HDH54,WAW87. 8a. Adventive.

Chenopodium foliosum (Moench) Ascherson:WAW87. 8a. Adventive.

C. overi Aellen:HDH54

Blite Goosefoot; Strawberry-blite

Red Goosefoot

CONVALLARIACEAE--MAYFLOWER FAMILY (CVL)
(traditionally under Liliaceae)

Maianthemum stellatum (L.) Link: WAW87. 4,6,7ab. False Solomon's Seal; Star Solomon-plume
Smilacina stellata (L.) Desfontaines: HDH54

COPTACEAE--MEADOWRUE FAMILY (COP)
(traditionally under Ranunculaceae)

Thalictrum sparsiflorum Turczaninov ex Fischer & Ave-Lallemant: WAW87. 4. (COLO) Few-flowered Meadowrue
T. sparsiflorum Turczaninov ex Fischer & Ave-Lallemant var. *saximontanum* Boiven: HDH54

CRASSULACEAE--STONECROP FAMILY (CRS)

Amerosedum lanceolatum (Torrey) Löve & Löve: WAW87. 3,4,9. Lanceleaf, Wormleaf, or Yellow Stonecrop
Sedum lanceolatum Torrey
≠ *S. stenopetalum* (Pursh) Löve & Löve: HDH54. See comment in Weber and Wittmann.
Clementsia rhodantha (A. Gray) Rose: WAW87. 7bc. Queen's or Rose Crown; Stonecrop
Sedum rhodanthum A. Gray: HDH54
Rhodiola integrifolia Rafinesque: WAW87. 7bc. King's Crown; Rose Root; Rosy Stonecrop
Sedum integrifolium (Rafinesque) A. Nelson: HDH54

CYPERACEAE--SEDGE FAMILY (CYP)

Carex albo-nigra Mackenzie in Rydberg, alternately spelled *C. albonigra*: HDH54, WAW87. 3. Blackhead Sedge
Carex aquatilis Wahlenberg subsp. *aquatilis*: HDH54, WAW87. 7. Water Sedge
Carex arapahoensis Clokey: HDH54, WAW87. 9bc. Arapaho Sedge
Carex bebbii (L. H. Bailey) Fernald: HDH54, WAW87. 7ab. Bebb's Sedge
Carex brevipes F. Boott: WAW87. 1,2. See comment in Weber and Wittmann. Sedge
Subsumed under *C. rossii* F. Boott in Hooker: HDH54
Carex capitata L. subsp. *arctogena* (H. Smith) Böcher: WAW87. 7bc. (COLO) Capitata Sedge
≠ As the species: HDH54
C. arctogena H. Smith Sedge
Carex chalciolepis Holm: HDH54, WAW87. 1-3. Pyrenaen Sedge
C. heteroneura W. Boott var. *chalciolepis* (Holm) F.J. Hermann
Carex crandallii Gandoger: WAW87. 3. Softleaved Sedge
≠ *C. pyrenaica* Wahlenberg: HDH54. See comment in Weber and Wittmann.
Carex disperma Dewey: HDH54, WAW87. 7ab.

Carex ebenea Rydberg:HDH54, WAW87. 6.
Carex festivella Mackenzie:HDH54, WAW87. 6.
Carex foenea Willdenow: WAW87. 1,2,9ab.

C. siccata Dewey:HDH54

Carex geyeri F. Boott:HDH54, WAW87. 1,2,4.

Carex haydeniana Olney:HDH54, WAW87. 3.

Carex hoodii F. Boott in Hooker:HDH54, WAW87. 6. (COLO)

Carex microptera Mackenzie:WAW87. 4,6,7a.

Subsumed under *C. festivella* Mackenzie:HDH54

Carex norvegica Retzius subsp. *stevenii* (Holm) D. Murray:WAW87. 4,6,7.

C. media R. Brown var. *stevenii* (Holm) Fernald:HDH54. See comment in Harrington.

Carex nova A. Nelson:HDH54, WAW87. 7.

Carex pachystachya Chamisso ex Steudel:HDH54, WAW87. 1,2,6.

Carex phaeocephala Piper:HDH54, WAW87. 3.

Carex rossii F. Boott in Hooker:HDH54, WAW87. 1,2,4.

Carex rupestris Allioni subsp. *drummondiana* (Dewey) Holub:WAW87. 9.

C. drummondiana Dewey:HDH54

Carex scopulorum Holm:HDH54, WAW87. 7b. (COLO)

Carex utriculata F. Boott:WAW87. 7ab.

≠ *C. rostrata* J. Stokes:HDH54. See comment in Weber and Wittmann.

Carex vesicaria L.:HDH54, WAW87. 7ab. Adventive.

Kobresia myosuroides (Villars) Fiori & Paoli:WAW87. 3.

K. bellardii (Allioni) Degland var. *bellardii*:HDH54

CYPRIPEDIAEAE--LADY'S SLIPPER FAMILY (CPD)

(traditionally under Orchidaceae)

Cypripedium fasciculatum Kellogg ex S. Watson:HDH54, WAW87. 2.

Brownie or Purple Lady's Slipper

ELAEAGNACEAE--OLEASTER FAMILY (ELE)

Shepherdia canadensis (L.) Nuttall:HDH54, WAW87. 1.

Canada or Russet Buffaloberry

ERICACEAE--HEATH FAMILY (ERI)

(see also MNT, PYR)

Arctostaphylos adenotricha (Fernald & Macbride) Löve et al.:WAW87. 1,2,6,ab.

A. uva-ursi (L.) Sprengel var. *adenotricha* Fernald & Macbride:HDH54

Bearberry; Kinnikinnick

Gaultheria humifusa (R. Graham) Rydberg:HDH54, WAW87. 2.
Kalmia microphylla (Hooker) Heller:WAW87. 7b.
K. polifolia Wangerin var. *microphylla* (Hooker) Rehder:HDH54
Vaccinium cespitosum Michaux, alternately spelled *V. caespitosum*:HDH54, WAW87. 2.
Vaccinium myrtillus L. subsp. *oreophilum* (Rydberg) Löve et al.:WAW87. 1-3.
 ≠ As the species:HDH54. See comment in Weber and Wittmann.
Vaccinium scoparium Leiberg ex Coville:HDH54, WAW87. 1-3.

Alpine, Creeping, or Western Wintergreen
 Alpine, Bog, Rocky Mtn., or Swamp Kalmia or Laurel
 Dwarf Bil-, Blue-, Huckle-, or Whortleberry
 Rocky Mtn. Bil-, Blue-, Huckle-, or Whortleberry
 Broom or Grouse Bil-, Blue-, Huckle-, or Whortleberry

FABACEAE/LEGUMINOSAE--LEGUME or PEA FAMILY (FAB)

Astragalus alpinus L.:HDH54, WAW87. 1, 6.
Astragalus miser Douglas in Hooker var. *oblongifolius* (Rydberg) Cronquist:WAW87. 1, 2, 6.
A. decumbens (Nuttall ex Torrey & Gray) A. Gray var. *oblongifolius* (Rydberg) Cronquist:HDH54
Lathyrus leucanthus Rydberg:HDH54, WAW87. 4.
Lupinus argenteus Pursh:HDH54. 1, 5, 6.
L. argenteus Pursh subsp. *rubricaulis* (Greene) Hess & Dunn:WAW87
Lupinus caudatus Kellogg:WAW87. 1, 5, 6.
L. caudatus Kellogg subsp. *argophyllus* (A. Gray) Phillips
L. greeni A. Nelson:HDH54
Melilotus albus Medicus, alternately spelled *M. alba*:HDH54, WAW87. 8a. Adventive. (field obs.)
Melilotus officinale (L.) Pallas, alternately spelled *M. officinalis*:HDH54, WAW87. 8a. Adventive. (field obs.)
Oxytropis campestris (L.) De Candolle var. *gracilis* (A. Nelson) Barneby. 5.
 ≠ *O. campestris* (L.) De Candolle var. *glabrata* Hooker:HDH54. See comment in Weber and Wittmann.
O. gracilis (A. Nelson) Schumann:WAW87
Thermopsis divaricarpa A. Nelson:HDH54, WAW87. 7ab.
Trifolium dasyphyllum Torrey & Gray:HDH54, WAW87. 2, 3.
Trifolium hybridum L.:HDH54, WAW87. 1, 4, 6, 8, a. Adventive.
Trifolium nanum Torrey:HDH54, WAW87. 3.
Trifolium parryi A. Gray:HDH54, WAW87. 6b, 7c.
Trifolium repens L.:HDH54, WAW87. 1, 8, a. Adventive.
Trifolium rusbyi Greene subsp. *reflexum* (A. Nelson) Heller & Zohary. 4a. (COLO)
 ≠ *T. longipes* Nuttall ex Torrey & Gray subsp. *longipes*:HDH54, WAW87. See comment in Weber and Wittmann.
T. longipes Nuttall ex Torrey & Gray var. *reflexum* A. Nelson
Vicia americana Mühlenberg ex Willdenow var. *americana*:HDH54, WAW87. 4.

Alpine Milkvetch
 Decumbent or Weedy Milkvetch
 Aspen Peavine
 Silvery Lupine
 Spurred or Tailcup Lupine
 White Sweet-clover
 Yellow Sweet-clover
 Field or Slender Crazyweed; Stemless-locoweed
 Spreading Golden Banner; Golden Pea; Thermopsis
 Alpine or Whippoor Clover
 Alsike Clover
 Dwarf Clover
 Parry's Clover
 White Dutch Clover
 Rusby's Clover
 American Vetch

FUMARIACEAE--FUMITORY FAMILY (FUMI)

Corydalis aurea Willdenow subsp. *aurea*:WAW87. 8b.
C. aurea Willdenow var. *aurea*:HDH54

Golden Corydalis; Golden Smoke

GENTIANACEAE--GENTIAN FAMILY (GEN)

Frasera speciosa Douglas ex Grisebach:WAW87. 5. (field obs.)

Giant Fräsera; Green Gentian; Monument Plant

Swertia radiata (Kellogg) Kuntze:HDH54

Gentianella acuta (Michaux) Hiitonen:WAW87. 7ab.

Gentiana acuta Michaux var. *nana* Engelman

G. amarella L. subsp. *acuta* (Michaux) Murray

≠ *G. amarella* L. subsp. *amarella*. See comment in Weber and Wittmann under *Gentianella amarella*.

G. plebia Chamisso ex Bunge:HDH54

Gentianella amarella (L.) Börner subsp. *acuta* (Michaux) J.M. Gillett

≠ *G. amarella* (L.) Börner subsp. *amarella*. See comment in Weber and Wittmann.

Gentianella strictiflora (Rydberg) W.A. Weber. 7ab.

Gentian

Gentiana acuta Michaux var. *strictiflora* Rydberg

≠ *G. amarella* L. subsp. *amarella*. See comment in Weber and Wittmann under *Gentianella amarella*.

G. amarella L. var. *stricta* (Grisebach in Hooker) S. Watson

G. strictiflora (Rydberg) A. Nelson:HDH54

Subsumed under *Gentianella acuta* (Michaux) Hiitonen:WAW87

≠ *Gentianella amarella* (L.) Börner subsp. *amarella*. See comment in Weber and Wittmann.

Gentianodes algida (Pallas) Löve & Löve:WAW87. 3. (field obs.)

Alpine, Arctic or Whitish Gentian

Gentiana romanzovii Ledebour:HDH54

Gentianopsis barbellata (Engelmann) Iltis:WAW87. 7b.

Bearded or Fringed Gentian

Gentiana barbellata Engelmann:HDH54

Gentianella barbellata (Engelmann) J.M. Gillett

Pneumonanthe parryi (Engelmann) Greene:WAW87. 2,4,5.

Bottle or Parry's Gentian

Gentiana perennis L.:HDH54, WAW87. 7ab.

Star Gentian; Bog Swertia

S. palustris A. Nelson

GERANIACEAE--GERANIUM FAMILY (GER)

Geranium richardsonii Fischer & Trautvetter:HDH54, WAW87. 1,2,4,6.

Richardson's or Whiteflower Geranium

GROSSULARIACEAE--CURRANT or GOOSEBERRY FAMILY (GRS)

(traditionally under Saxifragaceae)

Ribes coloradense Coville: HDH54, WAW87. 1,2.

Ribes inerme Rydberg: HDH54, WAW87. 1.

Ribes lacustre (Persoon) Poirét: HDH54, WAW87. 7ab.

Ribes montigenum McClatchie: HDH54, WAW87. 2b. (COLO)

Colorado Currant or Gooseberry
White-stem Currant or Gooseberry
Prickly or Swamp Black Currant or Gooseberry
Mountain Current or Gooseberry

HELLEBORACEAE--HELLEBORE FAMILY (HEL)

(traditionally under Ranunculaceae)

Aconitum columbianum Nuttall ex Torrey & Gray var. *columbianum*: HDH54, WAW87. 4,7.

A. columbianum Nuttall ex Torrey & Gray var. *columbianum* forma *ochroleucum* (A. Nelson) St. John: WAW87

A. lutescens A. Nelson: HDH54

Actaea rubra (Aiton) Willdenow subsp. *arguta* (Nuttall in Torrey & Gray) Hultén: WAW87. 4.

A. arguta Nuttall ex Torrey & Gray: HDH54

Aquilegia coerulea James ex Torrey, alternately spelled *A. caerulea*: HDH54 (as the species), WAW87. 2,3,4.

Delphinium barbeyi (Huth) Huth: HDH54, WAW87. 7b.

Delphinium nuttallianum Pritzl ex Walpers: WAW87. 6.

D. nelsonii Greene: HDH54

Delphinium occidentale (S. Watson) S. Watson subsp. *occidentale*: HDH54, WAW87. 5.

Psychrophila leptosepala (De Candolle) W.A. Weber: WAW87. 7.

Caltha leptosepala De Candolle: HDH54

Trollius albiflorus (A. Gray) Rydberg: WAW87. 7ab.

T. laxus Salisbury var. *albiflorus* A. Gray: HDH54

Red Baneberry

Colorado Columbine

Barbey's Delphinium or Larkspur
Nuttall's or Pine Delphinium or Larkspur

Western Delphinium or Larkspur
Elkslip or White Marsh-marigold

American Globe-flower

Monkshood

HYDROPHYLLACEAE--WATERLEAF FAMILY (HYD)

Hydrophyllum fendleri (A. Gray) Heller: HDH54, WAW87. 1,2,7ab.

Phacelia sericea (R. Graham) A. Gray subsp. *sericea*: HDH54, WAW87. 1,2,9ab.

Fendler's Waterleaf
Purple Fringe; Silky Phacelia

IRIDACEAE--IRIS FAMILY (IRI)

Sisyrinchium montanum Greene: HDH54, WAW87. 7b.

Montana Blue-eyed-grass

JUNCACEAE--RUSH FAMILY (JUN)

Juncus confusus Coville:HDH54, WAW87. 7.

Juncus drummondii E. Meyer in Ledeb:HDH54, WAW87. 7.

Juncus hallii Englemann:HDH54, WAW87. 6a. (COLO)

Juncus mertensianus Bongard:HDH54, WAW87. 7.

Juncus saximontanus A. Nelson:HDH54, WAW87. 7.

Luzula comosa E. Meyer:WAW87. 4a, 7ab.

≠ *L. multiflora* (Retzius) Lejeune:HDH54. See comment in Weber and Wittmann.

Luzula parviflora (Ehrhart) Desvaux:HDH54, WAW87. 7.

Luzula spicata (L.) De Candolle:HDH54, WAW87. 7bc.

Luzula subcapitata (Rydberg) Harrington:HDH54, WAW87. 7bc. Endemic. (COLO)

Colorado Rush
Drummond's Rush
Hall's Rush
Blackheaded or Merten's Rush
Rocky Mtn. Rush
Field Wood-rush

Millet or Small-flowered Wood-rush
Spike Wood-rush
Wood-rush

LAMIACEAE/LABIATAE--MINT FAMILY (LAM)

Dracocephalum parviflorum Nuttall:WAW87. 4.

Moldavica parviflora (Nuttall) Britton:HDH54

American Dragon Head

LILIACEAE--LILY FAMILY (LIL)

(see also ALL, CCT, CVL, MLN, UVU)

Lloydia serotina (L.) Salisbury ex Reichenbach:HDH54, WAW87. 3.

Common Alp-lily

LINACEAE--FLAX FAMILY (LIN)

Adenolinum lewisii (Pursh) Löve & Löve:WAW87. 5.

Linum lewisii Pursh:HDH54

Lewis' or Wild Blue Flax

MALVACEAE--MALLOW FAMILY (MLV)

Sidalcea candida A. Gray:HDH54, WAW87. 4, 7, ab.

White Checker-mallow

MELANTHIACEAE--FALSE HELLEBORE FAMILY (MLN)

(traditionally under Liliaceae)

Anticlea elegans (Pursh) Rydberg:WAW87. 4, 7, ab.

Zigadenus elegans Pursh, alternately spelled *Zygadenus*:HDH54

Mountain Death Camas

Corn Husk Lily; False Hellebore

Veratrum tenuipetalum Heller: WAW87. 7a. (field obs.)

≠ *V. californicum* E.M. Durand: HDH54. See comment in Weber and Wittmann.

≠ *V. speciosum* Rydberg. See comment in Weber and Wittmann under above name.

MONOTROPACEAE--PINESAP FAMILY (MNT)
(traditionally under Ericaceae)

Woodland Pinedrops

Pterospora andromedea Nuttall: HDH54, WAW87. 1,2.

ONAGRACEAE--EVENING-PRIMROSE FAMILY (ONA)

Blooming-Sally; Fireweed

Chamerion danielsii D. Löve: WAW87. 1-3,7,8. See comment in Weber and Wittmann.

Chamaenerion angustifolium (L.) Scopoli subsp. *circumvagnum* (Mosquin) Moldenke

C. angustifolium (L.) Scopoli var. *platyphyllum* Daniels

Epilobium angustifolium auct., non (L.) Scopoli var. *angustifolium*

E. angustifolium (L.) Scopoli var. *canescens* Wood

E. angustifolium (L.) Scopoli subsp. *circumvagnum* Mosquin

E. angustifolium (L.) Scopoli var. *platyphyllum* (Daniels) Fernald: HDH54

Chamerion subdentatum (Rydberg) Löve & Löve: WAW87. 7b. See comment in Weber and Wittmann.

Epilobium latifolium auct., non L.: HDH54

Epilobium anagallidifolium Lamarck: WAW87. 7b.

≠ *E. alpinum* L.: HDH54. See comment in Weber and Wittmann.

Epilobium brachycarpum K. Presl: WAW87. 6,8,ab.

E. paniculatum Nuttall ex Torrey & Gray: HDH54

Epilobium ciliatum Rafinesque subsp. *glandulosum* (Lehmann) Hoch & Raven: WAW87. 6,8,ab.

≠ *E. adenocaulon* Haussknecht var. *adenocaulon*: HDH54

E. adenocaulon Haussknecht var. *occidentale* Trelease: HDH54

≠ *E. ciliatum* Rafinesque subsp. *ciliatum*

Epilobium clavatum Trelease: HDH54, WAW87. 6,8,ab.

Epilobium halleanum Haussknecht: HDH54, WAW87. 4,6,8,ab.

Epilobium hornemannii Reichenbach: HDH54, WAW87. 6-8,ab.

Epilobium lactiflorum Haussknecht: HDH54, WAW87. 6,8,ab.

Epilobium saximontanum Haussknecht: HDH54, WAW87. 7ab.

Gayophytum diffusum Torrey & Gray subsp. *parviflorum* Lewis & Szwedkowski: WAW87. 8ab.

G. lasiospermum Greene: HDH54

Willow-herb or Willow-weed

Willow-herb or Willow-weed

Hornemann's Willow-herb or Willow-weed

Willow-herb or Willow-weed

Glandular Willow-herb or Willow-weed

Spreading Gayophytum or Ground Smoke

ORCHIDACEAE--ORCHID FAMILY (ORC) (see also CPD)

- Calypso bulbosa (L.) Oakes:HDH54, WAW87. 1.
 Corallorhiza maculata Rafinesque:HDH54, WAW87. 1,2.
 Corallorhiza trifida (L.) Chatelain:HDH54, WAW87. 2.
 Goodyera oblongifolia Rafinesque:HDH54, WAW87. 2. (field obs.)
 Limnorchis dilatata (Pursh) Rydberg subsp. albiflora (Chamisso) Löve & Simon:WAW87. 7ab.
Habenaria dilatata (Pursh) Hooker var. *albiflora* (Chamisso) Correll:HDH54. See comment in Harrington.
 Limnorchis hyperborea (L.) Rydberg. 7ab. See comment in Weber and Wittmann.
Habenaria hyperborea (L.) R. Brown:HDH54
 ≠ *Limnorchis saccata* (Greene) Löve & Simon:WAW87
 Limnorchis stricta (Lindley) Rydberg. 7ab. (field obs.)
Habenaria saccata Greene:HDH54
Limnorchis saccata (Greene) Löve & Simon:WAW87
 Listera cordata (L.) R. Brown subsp. nephrophylla (Rydberg) Löve & Löve:WAW87. 7ab.
 ≠ As the species:HDH54
 Lysiella obtusata (Banks ex Pursh) Britton & Rydberg:WAW87. 7ab.
Habenaria obtusata (Banks ex Pursh) Richardson:HDH54
 Spiranthes romanzoffiana Chamisso:HDH54, WAW87. 7ab.

- Calypso; Fairy Slipper
 Spotted Coralroot
 Early Coralroot
 Western Rattlesnake-plantain
 White Bog-orchid or Habenaria
 Bog-orchid; Habenaria
 Northern Green Bog-orchid or Habenaria
 Heartleaf Listera; Twayblade
 Small Northern or One-leaf Bog-orchid or Habenaria
 Continental Lady's Tresses; Pearl Twist

PARNASSIACEAE--GRASS-OF-PARNASSUS FAMILY (PAR) (traditionally under Saxifragaceae)

- Parnassia fimbriata König:HDH54, WAW87. 7b.
 Parnassia parviflora De Candolle:HDH54, WAW87. 7b. (COLO)

- Fringed Grass-of-Parnassus; Rocky Mtn. Parnassia
 Small-flowered Grass-of-Parnassus or Parnassia

PLANTAGINACEAE--PLANTAIN FAMILY (PTG)

- Plantago major L.:HDH54, WAW87. 8a. Adventive. (field obs.)

- Common Plantain or Rippleseed

POACEAE/GRAMINEAE--GRASS FAMILY (POA)

- Agrostis exarata Trinius:HDH54, WAW87. 7,8,ab. Adventive. (field obs.)
 Agrostis gigantea Roth:WAW87. 2. Adventive.
A. alba L.:HDH54
 Agrostis idahoensis Nash:HDH54, WAW87. 2,7a. (COLO)
 Agrostis scabra Willdenow:HDH54(as the species), WAW87. 1,4,5.

- Spike Bentgrass
 Redtop
 Idaho Bentgrass
 Rough Bentgrass; Ticklegrass

Agrostis thurberiana A.S. Hitchcock:HDH54, WAW87. 2b.	Thurber's Bentgrass
Alopecurus aequalis Sobolewski:HDH54, WAW87. 7a.	Short-awn Foxtail
Alopecurus pratensis L.:WAW87. 8a. Adventive.	Meadow Foxtail
No treatment; escaped detection by author:HDH54	
Anisantha tectorum (L.) Nevski:WAW87. 8a. Adventive.	Cheatgrass Brome; Cheatgrass; Chess
Bromus tectorum L., intermediate between vars. <i>glabratus</i> Spenner and <i>tectorum</i> :HDH54	
Bromelia bulbosa (Geyer ex Porter & Coulter) W.A. Weber:WAW87. 4a. (COLO)	Melicgrass; Oniongrass
Melica bulbosa Geyer ex Porter & Coulter:HDH54	Fringed Brome or Bromegrass
Bromopsis canadensis (Michaux) Holub subsp. canadensis:WAW87. 1,4.	Smooth Brome or Bromegrass
Bromus ciliatus L. var. <i>ciliatus</i> :HDH54	
Bromopsis inermis (Leysser) Holub:WAW87. 5,7,8,ab. Adventive.	Brome; Bromegrass
Bromus inermis Leysser:HDH54	
Bromopsis lanatipes (Shear) Holub:WAW87. 8ab.	Bluejoint Pine- or Reedgrass
Bromus anomalus Ruprecht ex Fournier var. <i>lanatipes</i> (Shear) A.S. Hitchcock:HDH54	
Calamagrostis canadensis (Michaux) P. Beauvois:HDH54, WAW87. 1,2,4,7ab.	Purple Pine- or Reedgrass
C. scribneri Beal	Northern Pine- or Reedgrass
Calamagrostis purpurascens R. Brown in Richardson:HDH54, WAW87. 1,2,4.	Rescuegrass
Calamagrostis stricta (Timm) Koeler:WAW87. 7ab.	
C. expansa A. Gray:HDH54	
Ceratophloea carinata (Hooker & Arnott) Tutin:WAW87. 4a. Adventive.	
Bromus carinatus Hooker & Arnott	
B. marginatus Nees in Steudel:HDH54	
Cinna latifolia (Treviranus) Grisebach in Ledebour:HDH54, WAW87. 7b.	Drooping Wood-reed
Critesion brachyantherum (Nevski) Barkworth & Dewey. 1,2,4,8,ab. Adventive.	Little Barley
C. jubatum (L.) Nevski subsp. <i>breviaristatum</i> (Bowden) Löve:WAW87	
Hordeum brachyantherum Nevski:HDH54	
Critesion jubatum (L.) Nevski:WAW87. 1,2,5,7,8,ab.	Foxtail Barley
Hordeum jubatum L. var. <i>caespitosum</i> (Scribner) A.S. Hitchcock:HDH54	
H. jubatum L. var. <i>jubatum</i> :HDH54	
Dactylis glomerata L.:HDH54, WAW87. 8ab. Adventive.	Orchard Grass
Danthonia intermedia Vasey:HDH54, WAW87. 4-6.	Timber Danthonia or Oatgrass
Deschampsia cespitosa (L.) P. Beauvois subsp. <i>cespitosa</i> :WAW87. 1-4,6,7abc.	Salt-and-pepper Grass; Tufted Hairgrass
D. cespitosa (L.) P. Beauvois subsp. <i>genuina</i> (Reichenbach) Lawrence:HDH54	
Elymus canadensis L.:HDH54, WAW87. 2. (COLO)	
Elymus elymoides (Rafinesque) Swezey:WAW87. 1,2,5.	Canada Wildrye
Sitanion hystrix (Nuttall) J.G. Smith:HDH54	Bottlebrush Squirreltail
S. hystrix (Nuttall) J.G. Smith var. <i>brevifolium</i> (J.G. Smith) C.L. Hitchcock	
Elymus glaucus Buckley:HDH54, WAW87. 1,2,4,7ab.	Blue Wild Rye

Elymus scribneri (Vasey) Jones:WAW87. 3. <i>Agropyron scribneri</i> Vasey:HDH54	Scribner's Wheatgrass
Elymus trachycaulus (Link) Gould ex Shinners subsp. <i>andinus</i> (Scribner & Smith) Löve & Löve:WAW87. 3. <i>Agropyron subsecundum</i> (Link) A.S. Hitchcock var. <i>andinum</i> (Scribner & Smith) A.S. Hitchcock:HDH54	Bearded Wheatgrass
Elymus trachycaulus (Link) Gould ex Shinners subsp. <i>trachycaulus</i> :WAW87. 1-8. <i>Agropyron trachycaulum</i> (Link) Malte:HDH54	Slender Wheatgrass
Festuca brachyphylla Schultes subsp. <i>coloradensis</i> Fredriksen:WAW87. 2,3. <i>F. ovina</i> L. var. <i>brachyphylla</i> (Schultes) Piper:HDH54 <i>F. ovina</i> L. var. <i>brevifolia</i> (R. Brown) S. Watson	Alpine Fescue
Festuca idahoensis Elmer:HDH54,WAW87. 5. Festuca minutiflora Rydberg:WAW87. 2,3. Possibly endemic. (COLO) ≠ <i>F. ovina</i> L. var. <i>ovina</i> :HDH54. See comment in Weber and Wittmann.	Idaho Fescue Small Fescue
Festuca pratensis Hudson:WAW87. 4. Adventive. <i>F. elatior</i> L. var. <i>elatior</i> :HDH54	Meadow Fescue
Festuca rubra L.:HDH54(as the species),WAW87. 1. Festuca saximontana Rydberg:WAW87. 1,6,a. (COLO) ≠ <i>F. ovina</i> L. var. <i>ovina</i> :HDH54. See comment in Weber and Wittmann.	Red Fescue Fescue
Festuca thurberi Vasey in Rothrock:HDH54,WAW87. 5. Glyceria elata (Nash ex Rydberg) Jones:HDH54,WAW87. 7ab. Glyceria striata (Lamarck) A.S. Hitchcock var. <i>stricta</i> (Scribner) Fernald:HDH54,WAW87. 7ab. Helictotrichon mortonianum (Scribner) Henrard:HDH54,WAW87. 3. Koeleria macrantha (Ledebour) Schultes:WAW87. 1,4-6. <i>K. cristata</i> (L.) Persoon:HDH54	Thurber's Fescue Tall Mannagrass Fowl Mannagrass Alpine Oat Junegrass; Prairie Junegrass
Leucopoa kingii (S. Watson) W.A. Weber:WAW87. 1. <i>Hesperochloa kingii</i> (S. Watson) Rydberg:HDH54	Spike-fescue
Lolium perenne L. subsp. <i>italicum</i> (A. Braun) Syme. 8ab. Adventive. <i>L. multiflorum</i> Lamarck ≠ <i>L. perenne</i> subsp. <i>perenne</i> :HDH54,WAW87. Weber and Wittmann maintain that subsp. <i>perenne</i> is restricted to Europe.	Italian or Perennial Ryegrass
Muhlenbergia montana (Nuttall) A.S. Hitchcock:HDH54,WAW87. 5. Muhlenbergia richardsonis (Trinius) Rydberg:HDH54,WAW87. 5. Oryzopsis asperifolia Michaux:HDH54,WAW87. 4a. Oryzopsis pungens (Torrey ex Sprengel) A.S. Hitchcock:HDH54,WAW87. 1,4a. Phleum commutatum Gaudin:WAW87. 7,8,a. ≠ <i>P. alpinum</i> L.:HDH54	Mountain Muhly Mat, Richardson's or Short-leaved Muhly Roughleaf Ricegrass Short or Short-horn Ricegrass Alpine Timothy
Phleum pratense L.:HDH54,WAW87. 5,7,8,a. Adventive. Poa agassizensis Boivin & D. Löve:WAW87. 5. Subsumed under <i>P. pratensis</i> L.:HDH54 Poa alpina L.:HDH54,WAW87. 3,9b.	Common Timothy Bluegrass Alpine Bluegrass

- Poa annua* L.:HDH54, WAW87. 8a. Adventive.
- Poa arctica* R. Brown:HDH54, WAW87. 8bc. (COLO)
- Poa compressa* L.:HDH54, WAW87. 4. Considered adventive, but see comment in Weber and Wittmann.
- Poa cusickii* Vasey subsp. *epilis* (Scribner) W.A. Weber:WAW87. 3. (COLO)
- P. epilis* Scribner:HDH54
- Poa fendleriana* (Steudel) Vasey:HDH54, WAW87. 1,2.
- Poa glauca* M. Vahl subsp. *rupicola* (Nash) W.A. Weber:WAW87. 2,3.
- P. rupicola* Nash:HDH54
- Poa glaucifolia* Scribner & Williams:HDH54. 2. (COLO)
- No treatment (by accidental omission):WAW87
- Poa juncifolia* Scribner:HDH54, WAW87. 6,7,ab.
- P. amplia* Merrill:HDH54
- Poa leptocoma* Trinius:HDH54, WAW87. 7ab.
- Poa nemoralis* L. subsp. *interior* (Rydberg) W.A. Weber:WAW87. 4,5,9,ab.
- P. interior* Rydberg:HDH54
- Poa nervosa* (Hooker) Vasey:HDH54, WAW87. 1,2,6ab.
- Poa palustris* L.:HDH54, WAW87. 4a,6a,7ab.
- Poa pratensis* L.:HDH54, WAW87. 1,2,4-8,ab. Adventive.
- Poa reflexa* Vasey & Scribner:HDH54, WAW87. 6a,7ab.
- Poa secunda* J. Presl in K. Presl:HDH54, WAW87. 1,2.
- P. sandbergii* Vasey. See also Weber and Wittmann for expanded synonym listing.
- Secale cereale* L.:HDH54, WAW87. 8a. Adventive.
- Stipa lettermanii* Vasey:HDH54, WAW87. 5.
- Stipa nelsonii* Scribner:WAW87. 6a. (COLO)
- S. columbiana* Macoun var. *nelsonii* (Scribner) A.S. Hitchcock:HDH54
- Thinopyrum intermedium* (Host) Barkworth & Dewey subsp. *intermedium*. 8a. Adventive.
- Agropyron intermedium* (Host) P. Beauvois:HDH54
- Elytrigia intermedia* (Host) Nevski subsp. *intermedia*:WAW87
- Thinopyrum ponticum* (Podpera) Barkworth & Dewey. 8a. Adventive.
- Agropyron elongatum* (Host) P. Beauvois:HDH54
- Lophopyrum elongatum* (Host) Löve:WAW87
- Trisetum spicatum* (L.) Richter subsp. *congdonii* (Scribner & Merrill) Hultén:WAW87. 1-3,7.
- ≠ As the species:HDH54. See comment in Weber and Wittmann.
- Trisetum spicatum* (L.) Richter subsp. *molle* (Michaux) Hultén. 1-3,7.
- T. spicatum* (L.) Richter subsp. *majus* (Vasey) Hultén:WAW87
- ≠ As the species:HDH54. See comment in Weber and Wittmann.
- Trisetum wolfii* Vasey in Rothrock:HDH54, WAW87. 7ab.
- Annual Bluegrass
- Arctic or Gray's Bluegrass
- Canada Bluegrass
- Skyline Bluegrass
- Mutton Bluegrass; Muttongrass
- Greenland or Timberline Bluegrass
- Big or Pale-leaf Bluegrass
- Alkali Bluegrass
- Bog Bluegrass
- Inland or Woods Bluegrass
- Wheeler's Bluegrass
- Fowl or Swamp Bluegrass
- Kentucky Bluegrass
- Nodding Bluegrass
- Nevada or Sandberg's Bluegrass
- Rye
- Letterman's Needlegrass
- Columbia or Nelson's Needlegrass
- Intermediate Wheatgrass
- Tall Wheatgrass
- Downy Oatgrass; Spike Trisetum
- Rocky Mtn. or Spike Trisetum
- Beardless or Wolf's Trisetum

POLEMONIACEAE--PHLOX FAMILY (PLM)

- Collomia linearis* Nuttall:HDH54, WAW87. 2, 6. Slender-leaf Collomia
Phlox multiflora A. Nelson:HDH54, WAW87. 5, 6, a. Flowery or Many-flowered Phlox
Polemonium caeruleum L. subsp. *amygdalinum* (Wherry) Munz:WAW87. 2, 7b. Greek-valerian; Jacob's Ladder; Polemonium; Sky Pilot
P. occidentale Greene:HDH54
Polemonium pulcherrimum Hooker subsp. *delicatum* (Rydberg) Brand:WAW87. 1, 2. Showy or Skunkleaf Jacob's Ladder, Polemonium or Sky pilot
P. delicatum Rydberg:HDH54
Polemonium viscosum Nuttall:HDH54, WAW87. 3. Sticky Jacob's Ladder, Polemonium or Sky Pilot

POLYGONACEAE--BUCKWHEAT or KNOTWEED FAMILY (PLG)

- Bistorta bistortoides* (Pursh) Small:WAW87. 6. Alpine or American Bistort
Polygonum bistortoides Pursh var. *bistortoides*:HDH54
P. bistortoides Pursh, intermediate between vars. *bistortoides* and *linearifolium* (S. Watson) Small:HDH54
Bistorta vivipara (L.) S. Gray:WAW87. 3, 6b. Small or Viviparous Bistort
Polygonum viviparum L.:HDH54 Subalpine or Sulphur Buckwheat
Eriogonum subalpinum Greene:HDH54, WAW87. 5. Alpine Sorrel; Alpine Mountain Sorrel
E. umbellatum Torrey var. *majus* Hooker Devil's Shoestrings; Box Knotweed
Oxyria digyna (L.) J. Hill:HDH54, WAW87. 3. Douglas' or Sawatch Knotweed
Polygonum arenastrum Boreau:WAW87. 8ab. Adventive. Narrow-leaved or Willow Dock; Mountain Sorrel
≠P. aviculare L. var. *aviculare*:HDH54. See comment in Weber and Wittmann.
Polygonum douglasii Greene:HDH54, WAW87. 2, 6a, 8b.
Rumex triangulivalvis (Danser) Rechinger f.:HDH54. 8a.
≠R. mexicanus Meisner
 Specific epithet misspelled as *quadrangulivalvis*:WAW87

PORTULACACEAE--PURSLANE FAMILY (POR)

- Oreobroma pygmaea* (A. Gray) T.J. Howell:WAW87. 3. Pygmy or Least Bitterroot or Lewisia
Lewisia pygmaea (A. Gray) B.L. Robinson var. *pygmaea*:HDH54

PRIMULACEAE--PRIMROSE FAMILY (PRM)

- Androsace septentrionalis* L.:WAW87. 1, 2, 6-8, ab. Northern Androsace or Rock-jasmine
A. septentrionalis L. var. *puberulenta* (Rydberg) Knuth:HDH54
Primula parryi A. Gray:HDH54, WAW87. 7ab. Parry's Primrose

PYROLACEAE--WINTERGREEN FAMILY (PYR)
(traditionally under Ericaceae)

- Chimaphila umbellata* (L.) W. Barton subsp. *occidentalis* (Rydberg) Hultén: WAW87. 1,2. Western Pipsissewa; Prince's Pine
- C. umbellata* (L.) W. Barton var. *occidentalis* (Rydberg) Blake: HDH54 One-flowered Wintergreen; Wood-nymph
- Moneses uniflora* (L.) A. Gray: HDH54, WAW87. 1,2,7ab. Sidebells Pyrola; One-sided Wintergreen
- Orthilia secunda* (L.) House: WAW87. 1,2. Shinleaf; Pyrola; Green or White Wintergreen
- Pyrola secunda* L.: HDH54 Snowline Pyrola; Lesser Wintergreen
- Ranischia secunda* (L.) Gareke Alpine Pyrola; Pink, Round-leaved or Swamp Wintergreen
- Pyrola chlorantha* Swartz: HDH54, WAW87. 1,2,7ab.
- P. virens* Schweigger
- Pyrola minor* L.: HDH54, WAW87. 1,2,7ab.
- Pyrola rotundifolia* L. subsp. *asarifolia* (Michaux) Löve: WAW87. 1,2,7ab.
- P. asarifolia* Michaux var. *asarifolia*: HDH54
- P. asarifolia* Michaux var. *purpurea* (Bunge) Fernald: HDH54
- P. uliginosa* Torrey

RANUNCULACEAE--BUTTERCUP or CROW'S FOOT FAMILY (RAN)
(see also COP, HEL)

- Anemone multifida* Poiret var. *globosa* (Nuttall) Torrey & Gray: WAW87. 2. (COLO) Cliff or Pacific Anemone; Hudsonian Windflower
- A. globosa* Nuttall: HDH54 Hairy Water Crowfoot
- Batrachium trichophyllum* (Chaix) van den Bosch: WAW87. 7b. (COLO) American or Western Pasque Flower
- Ranunculus aquatilis* L. var. *capillaceus* (Thuillier) De Candolle: HDH54
- Pulsatilla patens* (L.) P. Miller subsp. *multifida* (Pritzl) Zamel. 1. Alpine or Snow Buttercup
- Anemone patens* L. Plantain-leaf or Water-plantain Buttercup
- Pulsatilla ludoviciana* (Nuttall) Heller: HDH54 Subalpine Buttercup
- P. patens* (L.) P. Miller subsp. *hirsutissima* (Pursh) Zamel. 3. Unlovely Buttercup
- Ranunculus adoneus* A. Gray: HDH54, WAW87. 3. Birdfoot or Northern Buttercup
- Ranunculus alismifolius* Geyer ex Benth var. *montanus* S. Watson: HDH54, WAW87. 2b. (COLO)
- Ranunculus eschscholtzii* Schlechtendal: WAW87. 7b.
- R. eschscholtzii* Schlechtendal var. *typicus* L. Benson: HDH54
- Ranunculus inamoenus* Greene: WAW87. 2b, 4a, 7b.
- R. inamoenus* Greene var. *alpeophilus* (A. Nelson) L. Benson: HDH54
- Ranunculus pedatifidus* J.E. Smith: HDH54, WAW87. 7b. (COLO)

ROSACEAE--ROSE FAMILY (ROS)

<i>Acomastylis rossii</i> (R. Brown) Greene subsp. <i>turbinata</i> (Rydberg) W.A. Weber: WAW87. 3.	Alpine or Golden Avens
<i>Geum rossii</i> (R. Brown) Seringe var. <i>turbinatum</i> (Rydberg) C.L. Hitchcock	
<i>G. turbinatum</i> Rydberg: HDH54	Saskatoon Serviceberry
<i>Amelanchier alnifolia</i> Nuttall: HDH54, WAW87. 1,4,5. (field obs.)	Old-man's Whiskers; Prairie Smoke
<i>Erythrocoma triflora</i> (Pursh) Greene: WAW87. 5-7, a.	
<i>Geum ciliatum</i> Pursh: HDH54	
<i>G. triflorum</i> Pursh	
<i>Fragaria vesca</i> L. subsp. <i>bracteata</i> (Heller) Staudt: WAW87. 1,2,4,7ab. (field obs.)	Bracted, Woods or European Strawberry
<i>F. americana</i> (T.C. Porter) Britton: HDH54	
<i>Fragaria virginiana</i> P. Miller subsp. <i>glauca</i> (S. Watson) Staudt: WAW87. 1,2,4.	Blue Elf, Virginia or Wild Strawberry
<i>F. glauca</i> (S. Watson) Rydberg	
<i>F. ovalis</i> (Lehmann) Rydberg: HDH54	Largeleaved or Yellow Avens
<i>Geum macrophyllum</i> Willdenow var. <i>perincisum</i> Raup: HDH54. 7ab.	
<i>G. macrophyllum</i> Willdenow subsp. <i>perincisum</i> (Rydberg) Hultén: WAW87	
<i>Geum rivale</i> L.: HDH54, WAW87. 7ab.	Purple, River or Water Avens
<i>Padus virginiana</i> (L.) P. Miller subsp. <i>melanocarpa</i> (A. Nelson) W.A. Weber: WAW87. 7ab. (field obs.)	Common or Western Chokecherry
<i>Prunus melanocarpa</i> (A. Nelson) Rydberg	
<i>P. virginiana</i> L. var. <i>melanocarpa</i> (A. Nelson) Sargent: HDH54	Bushy or Shrubby Cinquefoil
<i>Pentaphylloides floribunda</i> (Pursh) Löve: WAW87. 5.	
<i>Dasiphora fruticosa</i> (L.) Rydberg	
<i>Potentilla fruticosa</i> L.: HDH54	Early or Elegant Cinquefoil
<i>Potentilla concinna</i> Richardson var. <i>concinna</i> : HDH54, WAW87. 1,2.	Diverse-leaved or Varileaf Cinquefoil
<i>Potentilla diversifolia</i> Lehmann: HDH54, WAW87. 1-3.	Horse, Silver-leaved or Woolly Cinquefoil
<i>Potentilla hippiana</i> Lehmann: HDH54, WAW87. 1,2,6a. (field obs.)	Beautiful or Soft Cinquefoil
<i>Potentilla pulcherrima</i> Lehmann: HDH54, WAW87. 1,2,6a.	
<i>P. gracilis</i> Douglas var. <i>pulcherrima</i> (Lehmann) Fernald	Subpinnate Cinquefoil
<i>Potentilla subjuga</i> Rydberg: HDH54, WAW87. 3.	Bourgeau's Prickly Rose
<i>Rosa sayi</i> Schweinitz: WAW87. 1,2,4-7ab.	
≠ <i>R. acicularis</i> Lindley: HDH54	
<i>R. acicularis</i> Lindley subsp. <i>sayi</i> (Schweinitz) W.H. Lewis	
≠ <i>R. nutkana</i> K. Presl: HDH54. See comment in Weber and Wittmann.	
<i>Rosa woodsii</i> Lindley: HDH54, WAW87. 1,2,4-7ab.	Pearhip, Wild or Wood's Rose
≠ <i>R. nutkana</i> K. Presl: HDH54. See comment in Weber and Wittmann.	
<i>Rubus idaeus</i> L. subsp. <i>melanolasius</i> (Dieck) Focke: WAW87. 1,2,7b.	Red Raspberry
<i>R. strigosus</i> Michaux: HDH54	

Creeping Sibbaldia
Cascade or Greene's Mountain-ash

Catchweed Bedstraw
Northern Bedstraw

Small Bedstraw or Cleavers

Fragrant Bedstraw; Sweet-scented Cleavers

Narrowleaf Cottonwood or Poplar
Quaking Aspen
Arctic Willow

Beaked or Bebb's Willow
Booth's Willow

Barrenground or Short-fruited Willow

Blue or Drummond's Willow

Geyer's or Silver Willow
Mountain or Serviceberry Willow
Planeleaf or Tea-leaved Willow

Snow Willow

Scouler's Willow
Wolf's Willow

RUBIACEAE--MADDER FAMILY (RUB)

Sibbaldia procumbens L.:HDH54, WAW87. 2,3. (field obs.)
Sorbus scopulina Greene:HDH54, WAW87. 7ab. (field obs.)

Galium aparine L.:HDH54, WAW87. 2,7ab. Adventive. (field obs.)

Galium septentrionale Roemer & Schultes:WAW87. 4,6,7ab.

≠ *G. boreale* L.:HDH54. See comment in Weber and Wittmann.

Galium trifidum L. subsp. subbiflorum (Wiegand) Puff. 7ab.

G. brandegei A. Gray:HDH54

G. trifidum L. subsp. *brevipes* (Fernald & Weigand) Löve & Löve:WAW87

Galium triflorum Michaux:HDH54, WAW87. 2,7.

SALICACEAE--WILLOW FAMILY (SAL)

Populus angustifolia James:HDH54, WAW87. 7ab.

Populus tremuloides Michaux:HDH54, WAW87. 1,2,4.

Salix arctica Pallas subsp. *petraea* (Andersson) Löve *et al.*:WAW87(no infraspecific treatment). 3.

S. anglorum Chamisso var. *antiplasta* C.K. Schneider:HDH54

Salix bebbiana Sargent:HDH54, WAW87. 7ab. (field obs.)

Salix boothii Dorn:WAW87. 7ab.

≠ *S. pseudocordata* (Andersson) Rydberg:HDH54. See comment in Weber and Wittmann.

Salix brachycarpa Nuttall:HDH54(as the species), WAW87. 7.

S. brachycarpa Nuttall var. *antimima* Raup:HDH54

Salix drummondiana Barratt:WAW87. 7ab.

S. drummondiana Barratt var. *subcoerulea* Piper

S. subcoerulea Piper:HDH54

Salix geyeriana Andersson:HDH54(as the species), WAW87. 5-7,ab.

Salix monticola Bebb in Coulter:HDH54, WAW87. 7ab.

Salix planifolia Pursh:WAW87. 1,2.

S. planifolia Pursh var. *monica* (Bebb) C.K. Schneider:HDH54

Salix reticulata L. subsp. *nivalis* (Hooker) Löve *et al.*:WAW87. 3. (COLO)

S. nivalis Hooker var. *nivalis*:HDH54

Salix scouleriana Barratt *ex* Hooker:HDH54, WAW87. 1,2.

Salix wolfii Bebb:HDH54(as the species), WAW87. 7.

S. wolfii Bebb var. *idahoensis* Ball:HDH54

SAXIFRAGACEAE--SAXIFRAGE FAMILY (SAX)

(see also GRS, PAR)

Heuchera L., species not determined: HDH54, WAW87. 3. (field obs.)
Ciliaria austromontana (Wiegand) W.A. Weber: WAW87. 2.

Saxifraga austromontana Weigand

S. bronchialis L. subsp. *austromontana* (Wiegand) Piper, under \neq *S. bronchialis* L. subsp. *bronchialis*: HDH54

Micranthes odontoloma (Piper) Heller: WAW87. 7.

\neq *Saxifraga arguta* D. Don: HDH54. See comment in Weber and Wittmann under *Micranthes arguta*.

S. odontoloma Piper

Micranthes oregana (T.J. Howell) Small: WAW87. 7.

Saxifraga montanensis Small: HDH54

S. oregana (T.J. Howell) Small var. *montanensis* (Small) C.L. Hitchcock

\neq *S. subapetala* E. Nelson

Micranthes rhomboidea (Greene) Small: WAW87. 1-3, 7.

Saxifraga rhomboidea Greene: HDH54

Mitella pentandra Hooker: HDH54, WAW87. 1, 2.

Mitella stauropetala Piper var. *stenopetala* (Piper) Rosendahl: WAW87. 1, 2.

\neq As the species: HDH54. See comment in Weber and Wittmann.

M. stenopetala Piper: HDH54

Saxifraga hyperborea R. Brown subsp. *debilis* (Engelmann ex A. Gray) Löve *et al.*: WAW87. 2, 3. (COLO)

S. debilis Engelmann ex A. Gray: HDH54

Alumroot; Heuchera
 Spotted or Yellowdot Saxifrage

Brook Saxifrage

Bog or Oregon Saxifrage

Diamond-leaf or Snowball Saxifrage

Alpine or Five-stamen Miterwort
 Side-petaled or Smallflower Miterwort

Pygmy or Weak Saxifrage

SCROPHULARIACEAE--FIGWORT FAMILY (SCR)

Castilleja occidentalis Torrey: HDH54, WAW87. 3.

Castilleja rhexifolia Rydberg: HDH54, WAW87. 2, 4, 7.

Castilleja sulphurea Rydberg: WAW87. 2, 4, 7a.

\neq *C. septentrionalis* Lindley: HDH54. See comment in Weber and Wittmann.

Chionophila jamesii Benth in De Candolle: HDH54, WAW87. 3.

Linaria vulgaris P. Miller: HDH54, WAW87. 8a. Adventive.

Mimulus guttatus De Candolle: HDH54, WAW87. 7.

M. langsdorfii Donn ex Greene

Orthocarpus luteus Nuttall: HDH54, WAW87. 5.

Pedicularis bracteosa Benth in Hooker subsp. *paysoniana* (Pennell) W.A. Weber: WAW87. 2.

P. paysoniana Pennell: HDH54

Pedicularis groenlandica Retzius: HDH54, WAW87. 7.

Pedicularis parryi A. Gray subsp. *parryi*: HDH54, WAW87. 2, 3.

Western Yellow Paintbrush or Painted Cup
 Splitleaf Paintbrush or Painted Cup
 Sulphur Paintbrush or Painted Cup

James' Snowlover
 Butter-and-eggs; Toadflax
 Common or Yellow Monkeyflower

Yellow Owl-clover
 Bracted Lousewort or Pedicularis

Elephantella; Elephant-head Pedicularis
 Parry's Lousewort

- Pedicularis racemosa Douglas ex Hooker subsp. alba Pennell: WAW87. 2, 7b.
 ≠ As the species: HDH54
- Penstemon rydbergii A. Nelson: WAW87. 7ab.
P. rydbergii A. Nelson subsp. *aggregatus* (Pennell) Keck: HDH54
- Penstemon whippleanus A. Gray: HDH54, WAW87. 2.
P. glaucus R. Graham var. *stenosepalus* A. Gray
- Verbascum thapsus L.: HDH54, WAW87. 8ab. Adventive.
- Veronica americana Schweinitz ex Benth.: HDH54, WAW87. 7b.
 Veronica nutans Bongard: WAW87. 4, 6, b.
 ≠ *V. wormskjoldii* Roemer & Schultes, alternately spelled *wormskjoldii*: HDH54. See comment in Weber and Wittmann.
- Parrot's Beak or Sickletop Lousewort; Sickletop
 Rydberg's Beardtongue or Penstemon
 Dark or Whipple's Beardtongue or Penstemon
 Common, Flannel or Great Mullein
 American Brooklime or Speedwell
 American Alpine Speedwell
- Cucumber Root; Clasp-leaf Twisted-stalk
- Downy-fruit or Sharp-leaf Valerian
 Tobacco Root; Edible Valerian
- Early Blue, Hook or Subalpine Violet
 Mountain Blue or Labrador Violet
 Pallid or Small White Violet
 Kidney-leaved Violet
- UVULARIACEAE--BELLWORT FAMILY (UVU)
 (traditionally under Liliaceae)
- Streptopus fassettii Löve & Löve: WAW87. 7ab.
 ≠ *S. amplexifolius* (L.) De Candolle var. *americanus* Roemer & Schultes: HDH54
S. amplexifolius (L.) De Candolle var. *chalcatus* Fassett: HDH54
- VALERIANACEAE--VALERIAN FAMILY (VAL)
- Valeriana capitata Pallas ex Link subsp. *acutiloba* (Rydberg) F. G. Meyer: HDH54, WAW87. 7b.
 Valeriana edulis Nuttall: HDH54, WAW87. 5.
- VIOLACEAE--VIOLET FAMILY (VIO)
- Viola adunca J. E. Smith: HDH54 (as the species), WAW87. 6, 7.
 Viola labradorica Schrank: WAW87. 2b, 3.
V. adunca J. E. Smith var. *bellidifolia* (Greene) Harrington: HDH54
V. bellidifolia Greene
- Viola macloskeyi Lloyd subsp. *pallens* (Banks ex De Candolle) M. S. Baker. 7b. (COLO)
 ≠ *V. epipsiloides* Löve & Löve: WAW87. See comment in Weber and Wittmann.
V. macloskeyi Lloyd var. *pallens* (Banks ex De Candolle) C. L. Hitchcock
V. pallens (Banks ex De Candolle) Brainard
V. palustris L. subsp. *brevipes* M. S. Baker: HDH54
 ≠ *V. palustris* L. subsp. *palustris*. See comment in Weber and Wittmann.
- Viola renifolia A. Gray var. *brainerdii* (Greene) Fernald: HDH54, WAW87 (no infraspecific treatment). 6, 7, b.

Viola rydbergii Greene. 6,7,ab.
 ≠ *V. canadensis* L., no infraspecific treatment: WAW87. See comment in Weber and Wittmann.
 ≠ *V. canadensis* L. var. *rugulosa* (Greene) C.L. Hitchcock
V. canadensis L. var. *rydbergii* (Greene) House
 ≠ *V. rugulosa* Greene: HDH54, WAW87. See comment in Weber and Wittmann.
Viola scopulorum (A. Gray) Greene. 6,7,ab.
 ≠ *V. canadensis* L., no infraspecific treatment: WAW87. See comment in Weber and Wittmann.
 ≠ *V. canadensis* L. var. *canadensis*: HDH54. See comment in Weber and Wittmann.
V. canadensis L. var. *scopulorum* A. Gray: HDH54

VISCACEAE--MISTLETOE FAMILY (VIS)
 (traditionally under Loranthaceae)

Arceuthobium americanum Nuttall ex Engelman: HDH54, WAW87. 1,2, parasitic on *Pinus contorta*.

LICHEN CHECKLIST

Although now recognized as important ecosystem components, organisms such as lichens, mosses, fungi, and algae have been, until recently, largely ignored in research and management of natural resources. Several Forest studies have mentioned lichens in passing, but no serious research or inventories have been conducted.

The list of lichens presented below is intended as a starting point in the documentation of lichens and nonvascular plant occurrences. All specimens except *Usnea cavernosa* were collected by W.A. Weber and Eilif Dahl on 1 August 1953. Specimens are housed at the University of Colorado Herbarium in Boulder. Some mosses, also deposited at the same herbarium, have been collected but are not included in this report.

The list is arranged alphabetically by genus and species. If a taxon has been treated under more than one genus, the different genera are listed in brackets. Nomenclature and synonymy follow Weber and Wittmann (1992).

Bellemerea alpina (Sommerfelt) Clauzade & Roux [*Aspicilia*, *Lecanora*]
Bryonora castanea (Hepp) Poelt [*Biatora*, *Lecanora*]
Bryoria chalybeiformis (L.) Brodo & Hawksworth [*Alectoria*]
Caloplaca sinapisperma (Lamarck & De Candolle) Maheu & Gillet [*Blastenia*, *Caloplaca*, *Placodium*]
Cetraria ericetorum Opiz var. **reticulata** (Räsänen) Kärnefelt
Cetraria islandica (L.) Acharius
Cladonia bacilliformis (Nylander) Glück
Cladonia botrytes (Hagen) Willdenow
Cladonia cariosa (Acharius) Sprengel
Cladonia cenotea (Acharius) Schaerer
Cladonia cervicornis (Acharius) Flotow subsp. **verticillata** (Hoffmann) Ahti
Cladonia chlorophaea (Floerke ex Sommerfelt) Sprengel
Cladonia coccifera (L.) Willdenow
Cladonia coniocraea (Floerke) Sprengel
Cladonia decorticata (Floerke) Sprengel
Cladonia deformis (L.) Hoffmann
Cladonia ecmocyna Leighton
Cladonia gracilis (L.) Willdenow
Cladonia macrophyllodes Nylander
Cladonia pleurota (Floerke) Schaerer
Cladonia pyxidata (L.) Hoffmann
Collema furfuraceum (Arnold) DuRietz
Dactylina madreporiformis (Acharius) Tuckerman [*Cetraria*, *Dufourea*]
Hypogymnia austerodes (Nylander) Räsänen [*Parmelia*]
Lecidea atrobrunnea (Rameau ex Lamarck & De Candolle) Schaerer
Lecidea berengeriana (Massalonga) Th. Fries
Leptogium saturninum (Dickson) Nylander
Parmeliopsis ambigua (Wulfen in Jacquin) Nylander [*Foraminella*]
Parmeliopsis hyperopta (Acharius) Arnold [*Foraminella*]
Peltigera aphthosa (L.) Willdenow [*Peltophora*]
Peltigera canina (L.) Willdenow
Peltigera erumpens (Taylor in Hooker) Vainio
Peltigera malacea (Acharius) Funck
Peltigera rufescens (Weiss) Humboldt
Peltigera venosa (L.) Hoffmann [*Peltophora*]
Phaeophyscia scaistra (Acharius) Moberg [*Physcia*]
Physcia caesia (Hoffmann) Fűrnrrohr
Physconia grisea (Lamarck) Poelt
Psoroma hypnorum (M. Vahl) S. Gray
Rhizocarpon disporum (Naegeli ex Hepp) Müller-Argoviensis
Rhizocarpon geographicum (L.) De Candolle

Solorina crocea (L.) Acharius
Stereocaulon tomentosum E. Fries
Thamnia vermicularis (Swartz) Schaerer [*Cladonia*]
Thrombium epigaeum (Persoon) Wallroth
Trapeliopsis granulosa (Hoffmann) Lumbsch ex Hertel [*Lecidea*]
Tuckermannopsis pinastri (Scopoli) Hale in Egan [*Cetraria*]
Umbilicaria deusta (L.) Baumgartner
Umbilicaria hyperborea (Acharius) Hoffmann [*Gyrophora*]
Umbilicaria vellea (L.) Acharius [*Gyrophora*]
Usnea cavernosa Tuckerman
Usnea lapponica Vainio
Xanthoparmelia cf. coloradensis (Gyelnik) Hale [*Parmelia*]
Xanthoria soorediata (Vainio) Poelt [*Caloplaca*, *Gasparrinia*]

NAMES EXCLUDED FROM THE CHECKLISTS

Several plant names appear in previous publications, graduate papers, Forest Service vegetation data forms, and herbarium records that have not been included in the checklist. Either they were erroneously reported or their presence was not verified. The names, references in which they appear, and reasons for exclusion from listing follow below. Confusing misspellings in previous works and unconfirmed field observations are also presented. All unpublished references cited are on file with the Rocky Mountain Forest and Range Experiment Station.

***Agropyron saundersii* (Vasey) A.S. Hitchcock.** Appears misspelled as *A. saunderii* in unpublished checklist by Regelin (undated). No voucher specimen or verification. Presence on the Forest is possible. Corresponding name in Weber and Wittmann (1992) is *Elymus saundersii* Vasey.

***Agropyron smithii* Rydberg.** Appears in unpublished range data forms A-2200-15 and R2-2200-13, dated 29 June 1967. No voucher specimen or verification. Presence is possible. Corresponding name in Weber and Wittmann (1992) is *Pascopyrum smithii* (Rydberg) Löve.

***Agropyron spicatum* (Pursh) Scribner & Smith.** Appears in unpublished range data form titled "vegetative development indicating range readiness," dated 30 June 1981. No voucher specimen or verification. Presence on the Forest is unlikely. Corresponding name in Weber and Wittmann (1992) is *Pseudoregneria spicata* (Pursh) Löve subsp. *spicata*.

***Aster bigelovii* A. Gray.** Appears in Porter (1959a). No voucher specimen or verification. The presence of this plant is restricted to southern counties in Colorado. Corresponding name in Weber and Wittmann (1992) is *Machaeranthera bigelovii* (A. Gray) Greene.

***Astragalus convallarius* Greene.** Appears in Crouch (1986). Voucher specimen (Station herbarium acc. no. 564) annotated to *A. miser* Douglas in Hooker var. *oblongifolius* (Rydberg) Cronquist. Presence of *A. convallarius* is unlikely.

***Brassica campestris* L.** Appears in Wallmo *et al.* (1972). Voucher specimen (Station herbarium acc. no. 764) annotated to *Barbarea vulgaris* R. Brown. Presence of *Brassica campestris*, which corresponds in Weber and Wittmann (1992) to *B. rapa* L., is unlikely.

***Carduus nutans* L. subsp. *macrolepis* (Peterman) Kazmi.** This adventive plant was reported but not confirmed by W. Moir, summer 1992, in a forest clearcut.

***Carex arapahoensis* var. *albo-nigra*.** Appears in "list of plants at Fraser Experimental Forest and adjacent areas" (unauthored, undated; edited by Popovich, 1991a). This varietal name is not recognized and the voucher specimen (Station herbarium acc. no. 212C) was annotated to *C. albo-nigra* Mackenzie in Rydberg.

***Carex athrostachya* Olney.** Appears in unpublished checklists by Reichert (undated) and Regelin and Reichert (1969). No voucher specimen or verification. Presence is possible.

***Carex elynoides* Holm.** Appears in unpublished range condition data forms R2-2200-9, dated 30 July 1965. No voucher specimen or verification. Presence is possible.

***Carex heliophila* Mackenzie.** Appears in unpublished checklist by Regelin and Reichert (1969). No voucher specimen or verification. Presence on the Forest is likely. Corresponding name in Weber and Wittmann (1992) is *C. pensylvanica* Lamarck subsp. *heliophila* (Mackenzie) W.A. Weber.

***Carex macloviana* D'Urville.** Voucher specimen (W. Moir 1936, collected at "study plot 38") not examined. Presence is possible.

Carex nebraskensis Dewey. Appears in Wallmo *et al.* (1972), and unpublished checklists by Reichert (undated), Regelin (undated) and Regelin and Reichert (1969). Voucher specimen (Station herbarium acc. no. 770) annotated to *C. brevipes* F. Boott and additional voucher specimen (Station herbarium acc. no. 713) annotated to *C. nova* A. Nelson. Presence of this plant is likely. The spelling in Weber and Wittmann (1992) is *C. nebrascensis*.

Carex nevadensis. Appears in Wallmo *et al.* (1972). No voucher specimen. This is an apparent erroneous combination of genus and specific epithet. The intended taxon is not known.

Carex petasata Dewey. Appears in unpublished checklists by Reichert (undated), Regelin (undated) and Regelin and Reichert (1969). No voucher specimen or verification. Presence is possible.

Castilleja haydenii (A. Gray) Cockerell. Appears in oldest known checklist of plants (unauthored, unpublished; edited by Popovich, 1991b), created in the late 1930's. Voucher specimen (Station herbarium acc. no. 867) annotated to *C. rhexifolia* Rydberg, a common plant on the Forest. Presence of *C. haydenii* in Colorado is restricted to the San Juan Mountains.

Castilleja integra A. Gray in Torrey. Appears in unpublished checklist by Porter (1959b). No voucher specimen or verification. Occurrence of this species in Colorado is limited to more southern counties. A probable misidentification of *C. rhexifolia* Rydberg, a plant which commonly occurs on the Forest. Several specimens originally identified as *C. integra* collected above tree line by K.E. Brown in the late 1930's were also annotated to the latter species.

Castilleja lancifolia Rydberg. Appears in oldest known checklist of plants (unauthored, unpublished; edited by Popovich, 1991b), created in the late 1930's. Voucher specimen (Station herbarium acc. no. 852) annotated to *C. rhexifolia* Rydberg. *Castilleja lancifolia*, now known as *C. miniata* Douglas *ex* Hooker, also likely occurs on the Forest.

Cirsium osterhoutii (Rydberg) Petrak. Appears in Wallmo *et al.* (1972) and in unpublished checklist by Regelin (undated). No voucher specimen or verification. The present status of this taxon is unclear. Corresponding name in Harrington (1954) is *Carduus osterhoutii* Rydberg. This was probably a misidentification of another *Cirsium* species.

Corallorhiza striata Lindley. Appears misspelled as *C. stricta* in oldest known checklist of plants (unauthored, unpublished; edited by Popovich, 1991b), created in the late 1930's. Voucher specimen (Station herbarium acc. no. 1018) annotated to *C. maculata* Rafinesque. Presence of *C. striata* on the Forest is possible.

Dryas octopetala L. Appears in unpublished range condition data form R2-2200-9, dated 30 July 1965. No voucher specimen or verification. Presence on the

Forest is possible. Intraspecific assignment in Weber & Wittmann (1992) is *D. octopetala* L. subsp. *hookeriana* (Juzepczuk) Hultén.

Erigeron compositus Pursh. Appears misspelled as *E. compositae* in unpublished checklist by Regelin and Reichert (1969). No voucher specimen or verification. Presence is possible.

Erythronium grandiflorum Pursh. Appears in Whipple (1973). No voucher specimen or verification. Presence likely.

Festuca arizonica Vasey. Appears in unpublished range data form titled "vegetative development indicating range readiness," dated 30 June 1981. No voucher specimen or verification. Presence on the Forest is unlikely.

Festuca hesperochloa. This erroneous combination of genus and specific epithet appears in unpublished range data form titled "vegetative development indicating range readiness," dated 30 June 1981. The intended taxon was *Leucopoa kingii* (S. Watson) W.A. Weber, a plant occurring on the Forest.

Helenium hoopesii A. Gray. Appears in unpublished checklist by Regelin and Reichert (1969). No voucher specimen or verification. Presence is possible. Corresponding name in Weber and Wittmann (1992) is *Dugaldia hoopesii* (A. Gray) Rydberg.

Heuchera rubescens Torrey in Stansbury. The oldest known checklist of plants (unauthored, unpublished; edited by Popovich, 1991b) indicates a specimen was collected on 18 July 1937 "1 mi up Iron Cr. from road. Arap. N.F.," but the voucher specimen cannot be located. This plant is known to occur only in more western portions of Colorado. The specimen may have been *H. parvifolia* Nuttall *ex* Torrey & Gray, a plant which could occur on the Forest.

Juncus balticus Willdenow. Appears in Wallmo *et al.* (1972) and in unpublished checklists by Reichert (undated) and Regelin and Reichert (1969). No voucher specimen or verification. Presence likely. Corresponding name in Weber and Wittmann (1992) is *J. ater* Rydberg.

Juncus parryi Engelman. Appears in unpublished checklists by Reichert (undated), Regelin (undated) and Regelin and Reichert (1969). No voucher specimen or verification. Presence is possible.

Leontodon taraxacum L. Appears in unpublished range data form A-2200-15, dated 29 June 1967. No voucher specimen or verification. The intended taxon is unclear, but was probably *Taraxacum officinale* G.H. Weber *ex* Wiggers, the well known adventive common dandelion. It occurs infrequently on the Forest.

Penstemon glanca. Appears in the oldest known checklist of plants (unauthored, unpublished; edited by Popovich, 1991b). This is a misspelling of *P. glaucus* R. Graham var. *stenosepalus* A. Gray, a common penstemon on the Forest. The plant is now known as *P. whippleanus* A. Gray.

***Penstemon virens* Pennell ex Rydberg.** Appears in Wallmo *et al.* (1972), and in unpublished checklists by Regelin (undated) and Regelin and Reichert (1969). No voucher specimen or verification. This plant may occur on the Forest. A possible misidentification of *P. glaber* Pursh, a plant which more likely could occur on the Forest.

***Poa occidentalis* Vasey.** Appears in unpublished checklist by Regelin (undated). No voucher specimen or verification. Presence of this plant is restricted to southern Colorado. Likely a misidentification of a different *Poa* species.

***Primula angustifolia* Torrey.** Appears in unpublished checklists by Reichert (undated) and Regelin and Reichert (1969). No voucher specimen or verification. The checklists probably correspond to a specimen originally identified as *P. angustifolia* collected by Regelin (Station herbarium acc. no. 804) that was annotated to *P. parryi* A. Gray, a common plant on the Forest. Presence of *P. angustifolia* is likely.

***Ribes leptanthum* A. Gray.** Appears in Wallmo *et al.* (1972), and in unpublished checklists by Regelin (undated) and Regelin and Reichert (1969). Voucher specimen (Station herbarium acc. no. 799) annotated to *R. inerme* Rydberg. Presence of *R. leptanthum* is unlikely.

***Rubus parviflorus* Nuttall.** Appears in Wallmo *et al.* (1972) and in unpublished checklist by Reichert (1969). No voucher specimen or verification. Occurrence on the Forest is possible. Corresponding name in Weber and Wittmann (1992) is *Rubacer parviflorum* (Nuttall) Rydberg.

***Rudbeckia* L., species not determined.** An unconfirmed observation by S. Popovich in the summer of 1986 in the aspen thinning study plots near Fraser Experimental Forest headquarters. Presence is possible.

***Sisymbrium* L., species not determined.** Appears in unpublished checklist by Porter (1959b). No voucher specimen or verification. Presence is possible.

***Streptopus angustifolia*.** Appears in unpublished checklist by Reichert (undated). This apparent erroneous combination of genus and specific epithet is probably a misspelling of *S. amplexifolius* (L.) De Candolle, a common plant on the Forest. Corresponding name in Weber and Wittmann (1992) is *S. fassettii* Löve & Löve.

***Taraxacum dumetorum* Greene.** The label on Station herbarium acc. no. 1708 indicates a voucher specimen was collected on 8 August 1937 "0.2 mi sw/w of Sheepherder Mon." (near the Sheepherder Monument, within the alpine southern border of the Forest). Plant material of the original specimen no longer exists. Presence on the Forest is possible. Harrington (1954) incorrectly lists this as a synonym of *T. ceratophorum* (Ledebour) De Candolle, a name he erroneously applied to *T. ovinum* Greene.

***Xocleria cristata*.** Misspelling of *Koeleria cristata* (L.) Persoon, a common plant on the Forest. Appears in unpublished range data form titled "vegetative development indicating range readiness," dated 30 June 1981.

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GLOSSARY

- adventive** Accidentally or purposely introduced into the wild; not native to the habitat or area.
- alluvium** Deposits or sediment transported by water.
- angiosperms** The flowering plants; seed plants in which the seeds are enclosed in a fruit. Together with gymnosperms, they comprise the higher vascular plants.
- auct.** Latin *auctorum*, of authors; used in author citations to indicate a scientific name appearing in manuals; denotes the name is judged to be misapplied or otherwise not appropriate.
- author** The person(s) who first applied a given scientific name to a plant.
- authority** The name or abbreviation of an author(s) cited after a plant's scientific name. For example, *Shepherdia canadensis* (L.) Nuttall was originally described under a different genus by Linnaeus (L.) but renamed under the current genus by Thomas Nuttall, an English-American naturalist.
- °C** Celsius, a scale of temperature; °C = 5/9(°F - 32).
- carr** A fen dominated by scrubby or woody vegetation; e.g., willow carr.
- cf.** Latin *confer*, compared with; used to indicate a specimen tentatively identified by comparison with other known specimens.
- circumboreal** Distributed around the high latitudes of the northern hemisphere (the northern cold temperate regions and coniferous forests).
- circumpolar** Distributed around the polar regions of the northern hemisphere.
- climax plant community** Theoretically, a relatively stable plant community in equilibrium with existing environmental conditions; represents the final or indefinitely prolonged stage of the product (the sere) of succession. (There is debate among contemporary ecologists over the use of climax community and plant association philosophies.)
- cm** Centimeter, a metric unit of length; one centimeter = 0.39 inch.
- disjunct** Refers to populations in a discontinuous range separated from other potentially interbreeding populations by sufficient distance to preclude gene flow between them.
- emend.** Latin *emendatus*, amended; used in author citations when an author has changed the original spelling of a taxon without excluding the type of the name; precedes the name of the author making the change.
- endemic** Native and restricted to a particular geographical area.
- et al.** Latin *et alii*, and others; used in author citations to indicate that a publication or scientific name was written or published jointly by more than two authors; usually follows the senior author.
- ex** Latin *ex*, from, or according to; used in author citations to connect the names of two authors when the second validly published a name proposed, but not validly published, by the first.
- f.** Latin *fide*, according to; used in author citations.
- ft** Foot.
- ft²** Square foot.
- family** A taxonomic category comprising one or more genera or tribes of common phylogenetic origin.
- fellfield** A very rocky or boulder-strewn exposed site. It is typically dry and windswept.
- fen** A wet area rich in nutrients and exhibiting high primary productivity, with a winter water table at ground level or above. It is usually dominated by herbaceous plants.
- ferns/fern allies** Common names for the lower vascular plants, which do not produce seeds.
- flora** The plant life of a given area; also, a published work describing the plant life of a given area.
- floristics** The systematic study of floras; the study of species composition of vegetation.
- forma** Latin *forma*, form; a minor variant or form of a species; a lower taxonomic category than variety.
- genera** Plural of genus.
- genus** A taxonomic category comprising one or more phylogenetically related and morphologically similar species; the first word listed in the binomial name of a species or trinomial name of a subspecies or variety.
- glacial till** Materials transported and deposited by glaciers.
- gymnosperms** The conifers; cone-bearing trees or shrubs; seed plants in which the seeds are not enclosed in a fruit.
- ha** Hectare, a metric unit of area; one hectare = 2.47 acres.
- habitat type** A basic mapping unit used by the USDA Forest Service in classifying lands or sites based on potential (climax) natural vegetation. A habitat type represents, collectively, all parts of the landscape that support, or are capable of supporting, the same climax vegetation (plant association).
- herbaceous** Not woody; non-woody plants with stems that die back annually.
- holocene Epoch** The interval of geologic time beginning about 12,000 years ago and continuing to the present. The most recent Epoch of the Quaternary Period; recent geological time.
- hydric** Wet.
- in** Used in author citations to connect the names of two authors when the first supplied a described name in a work actually published by the second.
- in** Inch.
- infraspecific** Below the level of species; e.g., subspecies, variety, form.
- interface** The transition area from one environment to another.
- km** Kilometer, a metric unit of length; one kilometer = 0.62 miles.
- krummholz** Area at upper tree line characterized by environmentally dwarfed trees due to harsh growing conditions.

lichen An organism consisting of a fungus living symbiotically with an alga or a photosynthetic bacteria.

m Meter, a metric unit of length; one meter = 3.28 feet.

mesic Moist; wet-tending.

mi Mile.

mi² Square mile.

nomenclature The scientific names applied to organisms.

non Latin *non*, not; used in author citations.

peneplain An area worn down by erosion to a nearly flat plain.

plant association A taxonomic unit of vegetation classification used by the USDA Forest Service; is defined by the plants that dominate it at climax and usually by some characteristics of the site it occupies. A plant association is a climax plant community. (There is debate among contemporary ecologists over the use of climax community and plant association philosophies.)

plant community The group of plants that co-occur in the same habitat or area.

quaternary A geological period, from about 1.6 million years ago to the present.

rare Very seldomly occurring.

remnant community A formerly more widespread community now existing in isolated areas or habitats.

seral Subclimax.

southern Rocky Mountains The physiographic area comprising that portion of the Rocky Mountains extending from Casper, Wyoming, south to Sante Fe, New Mexico.

sp. Species (singular).

species A group of organisms recognized as distinct from others and that is usually reproductively isolated. The basic unit of biological classification; a taxonomic category below genus.

specific epithet The second word of the binomial name of a species or trinomial name of a subspecies or variety. The genus (first word) and specific epithet together comprise the species name.

spp. Species (plural).

subalpine Forested area below tree line, less severe in climate than alpine but still affected by cold tempera-

tures and a short growing season; ecotone forest between montane forest and nonforested alpine vegetation.

subsp. Subspecies (singular); also abbreviated ssp.

subspecies A subdivision of a species; usually has a distinct geographical range and morphological differences.

succession (ecological) The gradual and predictable process of progressive community change and replacement leading toward a stable climax community. The products of succession are termed the seral stages; they collectively form a sere. (There is debate among contemporary ecologists over the philosophies and applications of succession.)

taxa Plural of taxon.

taxon Any group of organisms considered sufficiently different from other such groups to be treated as a separate unit; any named taxonomic entity. For example, *Agoseris glauca* variety *glauca* and *Agoseris glauca* variety *dasycephala* each represent a different taxon at the varietal level.

taxonomy The theory and practice of describing, naming, and classifying organisms; systematics.

topography The surface features of a geographical area; the "lay of the land."

tree line The boundary marking the upper or lower elevational limits of tree cover. Strictly speaking, the term "timberline" refers to the upper elevational limit of commercially valuable timber, which may be hundreds of meters below the actual tree line.

var. Variety.

variety A subdivision of species denoting a lower taxonomic category than subspecies.

vascular plants Plants exhibiting the presence of specialized conductive tissues (xylem and phloem). All but the most primitive groups are clearly differentiated into root, stem, and leaf.

vegetation zone A geographical area that has a characteristic set of plants. More specifically, a geographical area with a uniform climate that supports a particular climatic climax plant association(s).

INDEX OF COMMON NAMES

Common names are followed by corresponding genera and their family abbreviations.

- Agoseris: *Agoseris* (AST)
 Alder: *Alnus* (BET)
 Allumroot: *Heuchera* (SAX)
 Alpine Oat: *Helictotrichon* (POA)
 Alpine Parsley: *Oreoxis* (API)
 Alpine Sunflower: *Rydbergia* (AST)
 Alp-lily: *Lloydia* (LIL)
 Androsace: *Androsace* (PRM)
 Anemone: *Anemone* (RAN)
 Angelica: *Angelica* (API)
 Arabis: *Arabis* (BRA)
 Arnica: *Arnica* (AST)
 Aspen: *Populus* (SAL)
 Aster: *Aster*, *Virgulaster* (AST)
 Avena: *Acomastylis*, *Geum* (ROS)
 Baneberry: *Actaea* (HEL)
 Bearberry: *Arctostaphylos* (ERI)
 Beardtongue: *Penstemon* (SCR)
 Bedstraw: *Galium* (RUB)
 Bellflower: *Campanula* (CAM)
 Bentgrass: *Agrostis* (POA)
 Bilberry: *Vaccinium* (ERI)
 Birch: *Betula* (BET)
 Bistort: *Bistorta* (PLG)
 Bitter Cress: *Cardamine* (BRA)
 Bitterroot: *Oreobroma* (POR)
 Bladder Fern: *Cystopteris* (ATY)
 Bladderpod: *Lesquerella* (BRA)
 Blooming-Sally: *Chamerion* (ONA)
 Bluebells: *Mertensia* (BOR)
 Blueberry: *Vaccinium* (ERI)
 Blue-eyed-grass: *Sisyrinchium* (IRI)
 Bluegrass: *Poa* (POA)
 Bog-orchid: *Limnorchis*, *Lysiella* (ORC)
 Boxleaf: *Paxistima* (CEL)
 Brittle Fern: *Cystopteris* (ATY)
 Brome: *Anisantha*, *Bromopsis* (POA)
 Bromegrass: *Bromopsis* (POA)
 Brook-cress: *Cardamine* (BRA)
 Brooklime: *Veronica* (SCR)
 Buckwheat: *Eriogonum* (PLM)
 Buffaloberry: *Shepherdia* (ELE)
 Butter-and-eggs: *Linaria* (SCR)
 Buttercup: *Ranunculus* (RAN)
 Butterweed: *Packera*, *Senecio* (AST)
 Calypso: *Calypso* (ORC)
 Champion: *Anotites*, *Gastrolychnis*,
 Melandrium, *Silene* (CRY)
 Caraway: *Carum* (API)
 Catchfly: *Anotites*, *Gastrolychnis*,
 Melandrium, *Silene* (CRY)
 Cerastium: *Cerastium* (ASN)
 Cheatgrass: *Anisantha* (POA)
 Checker-mallow: *Sidalcea* (MLV)
 Chess: *Anisantha* (POA)
 Chickweed: *Stellaria* (ASN)
 Chokecherry: *Padus* (ROS)
 Cinquefoil: *Pentaphylloides*, *Potentilla* (ROS)
 Cleavers: *Galium* (RUB)
 Clover: *Trifolium* (FAB)
 Club-moss: *Lycopodium*, *Selaginella* (SEL)
 Collomia: *Collomia* (PLM)
 Columbine: *Aquilegia* (HEL)
 Coralroot: *Corallorhiza* (ORC)
 Corn Husk Lily: *Veratrum* (MLN)
 Corydalis: *Corydalis* (FUM)
 Cottonwood: *Populus* (SAL)
 Cowbane: *Oxypolis* (API)
 Cow-parsnip: *Heracleum* (API)
 Crazyweed: *Oxytropis* (FAB)
 Cucumber Root: *Streptopus* (UVU)
 Cudweed: *Gnaphalium*, *Pseudognaphalium* (AST)
 Currant: *Ribes* (GRS)
 Daisy: *Erigeron*, *Leucanthemum* (AST)
 Dandelion: *Taraxacum* (AST)
 Danthonia: *Danthonia* (POA)
 Death Camas: *Anticlea* (MLN)
 Delphinium: *Delphinium* (HEL)
 Devil's Shoestrings: *Polygonum* (PLM)
 Douglas-fir: *Pseudotsuga* (PIN)
 Draba: *Draba* (BRA)
 Dragon Head: *Dracocephalum* (LAM)
 Dwarf-mistletoe: *Arceuthobium* (VIS)
 Elder: *Sambucus* (CPR)
 Elderberry: *Sambucus* (CPR)
 Elephantella: *Pedicularis* (SCR)
 Elephant-head: *Pedicularis* (SCR)
 Fairy Slipper: *Calypso* (ORC)
 False-arabis: *Boechera* (BRA)
 False Dandelion: *Agoseris* (AST)
 False Hellebore: *Veratrum* (MLN)
 False Solomon's Seal: *Maianthemum* (CVL)
 Fescue: *Festuca* (POA)
 Fir: *Abies* (PIN)
 Fireweed: *Chamerion* (ONA)
 Fleabane: *Erigeron* (AST)
 Flixweed: *Descurainia* (BRA)
 Forget-me-not: *Eritrichum* (BOR)

Foxtail: *Alopecurus* (POA)
 Foxtail Barley: *Critesion* (POA)
 Frasera: *Frasera* (GEN)
 Gayophytum: *Gayophytum* (ONA)
 Gentian: *Frasera*, *Gentianella*, *Gentianodes*,
 Gentianopsis, *Swertia* (GEN)
 Geranium: *Geranium* (GER)
 Gilia: *Collomia* (PLM)
 Globe-flower: *Trollius* (HEL)
 Gnaphalium: *Gnaphalium*, *Pseudognaphalium* (AST)
 Goatsbeard: *Tragopogon* (AST)
 Golden Aster: *Heterotheca* (AST)
 Golden Banner: *Thermopsis* (FAB)
 Golden Smoke: *Corydalis* (FUM)
 Goldenrod: *Solidago* (AST)
 Goldenweed: *Oreochrysum*, *Tonestus* (AST)
 Gooseberry: *Ribes* (GRS)
 Goosefoot: *Chenopodium* (CHN)
 Grass-of-Parnassus: *Parnassia* (PAR)
 Greek-valerian: *Polemonium* (PLM)
 Ground Smoke: *Gayophytum* (ONA)
 Groundsel: *Ligularia*, *Packera*, *Senecio* (AST)
 Habenaria: *Limnorchis*, *Lysiella* (ORC)
 Harebell: *Campanula* (CAM)
 Hawksbeard: *Psilochenia* (AST)
 Hawkweed: *Chlorocrepis* (AST)
 Helianthella: *Helianthella* (AST)
 Hemlock-parsley: *Conioselinum* (API)
 Heuchera: *Heuchera* (SAX)
 Hollygrape: *Mahonia* (BER)
 Honeysuckle: *Distegia* (CPR)
 Horsetail: *Equisetum* (EQU)
 Huckleberry: *Vaccinium* (ERI)
 Jacob's Ladder: *Polemonium* (PLM)
 Junegrass: *Koeleria* (POA)
 Juniper: *Juniperus* (CUP)
 Kalmia: *Kalmia* (ERI)
 King's Crown: *Rhodiola* (CRS)
 Kinnikinnick: *Arctostaphylos* (ERI)
 Knotweed: *Polygonum* (PLM)
 Kobresia: *Kobresia* (CYP)
 Lady's Slipper: *Cypripedium* (CPD)
 Lady's Tresses: *Spiranthes* (ORC)
 Lamb's Tongue: *Senecio* (AST)
 Larkspur: *Delphinium* (HEL)
 Laurel: *Kalmia* (ERI)
 Lewisia: *Lewisia* (POR)
 Ligusticum: *Ligusticum* (API)
 Listera: *Listera* (ORC)
 Little Barley: *Critesion* (POA)
 Lousewort: *Pedicularis* (SCR)
 Lovage: *Ligusticum* (API)
 Lupine: *Lupinus* (FAB)
 Mahonia: *Mahonia* (BER)
 Mannagrass: *Glyceria* (POA)
 Mariposa: *Calochortus* (CCT)
 Marsh-marigold: *Psychrophila* (HEL)
 Mayweed: *Matricaria* (AST)
 Meadowrue: *Thalictrum* (COP)
 Melicgrass: *Bromelica* (POA)
 Milkvetch: *Astragalus* (FAB)
 Miterwort: *Mitella* (SAX)
 Monkeyflower: *Mimulus* (SCR)
 Monkshood: *Aconitum* (HEL)
 Monument Plant: *Frasera* (GEN)
 Moschatel: *Adoxa* (ADX)
 Moss Pink: *Silene* (CRY)
 Mountain-ash: *Sorbus* (ROS)
 Mountain-lover: *Paxistima* (CEL)
 Mountain Parsley: *Pseudocymopterus* (API)
 Mouse-ear: *Cerastium* (ASN)
 Muhly: *Muhlenbergia* (POA)
 Mullein: *Verbascum* (SCR)
 Muskroot: *Adoxa* (ADX)
 Muttongrass: *Poa* (POA)
 Nailwort: *Paronychia* (ASN)
 Needlegrass: *Stipa* (POA)
 Oat Grass: *Trisetum* (POA)
 Oatgrass: *Danthonia* (POA)
 Old-man-of-the-mountain: *Rydbergia* (AST)
 Old-man's Whiskers: *Erythrocoma* (ROS)
 Onion: *Allium* (ALL)
 Oniongrass: *Bromelica* (POA)
 Orchard Grass: *Dactylis* (POA)
 Oregon-grape: *Mahonia* (BER)
 Oreoxis: *Oreoxis* (API)
 Osha: *Ligusticum* (API)
 Owl-clover: *Orthocarpus* (SCR)
 Oyster-plant: *Tragopogon* (AST)
 Pachystima: *Paxistima* (CEL)
 Painted-cup: *Castilleja* (SCR)
 Paintbrush: *Castilleja* (SCR)
 Parnassia: *Parnassia* (PAR)
 Pasque Flower: *Pulsatilla* (RAN)
 Pearl Twist: *Spiranthes* (ORC)
 Pearlwort: *Sagina* (ASN)
 Pearly Everlasting: *Anaphalis* (AST)
 Peavine: *Lathyrus* (FAB)
 Penstemon: *Penstemon* (SCR)
 Pennycress: *Noccaea* (BRA)
 Peppergrass: *Lepidium* (BRA)
 Phacelia: *Phacelia* (HYD)
 Phlox: *Phlox* (PLM)
 Pine: *Pinus* (PIN)
 Pinedrops: *Pterospora* (MNT)
 Pinegrass: *Calamagrostis* (POA)

Pipsissewa: *Chimaphila* (PYR)
 Plantain: *Plantago* (PTG)
 Poplar: *Populus* (SAL)
 Prairie Smoke: *Erythrocoma* (ROS)
 Prickly Lettuce: *Lactuca* (AST)
 Primrose: *Primula* (PRM)
 Prince's Pine: *Chimaphila* (PYR)
 Purple Fringe: *Phacelia* (HYD)
 Pussytoes: *Antennaria* (AST)
 Pyrola: *Orthilia*, *Pyrola* (PYR)
 Queen's Crown: *Clementsia* (CRS)
 Rabbitbrush: *Chrysothamnus* (AST)
 Ragwort: *Senecio* (AST)
 Raspberry: *Rubus* (ROS)
 Rattlesnake-plantain: *Goodyera* (ORC)
 Redtop: *Agrostis* (POA)
 Reedgrass: *Calamagrostis* (POA)
 Rescuegrass: *Ceratochloa* (POA)
 Ricegrass: *Oryzopsis* (POA)
 Rock Cress: *Arabis*, *Boechera* (BRA)
 Rock-jasmine: *Androsace* (PRM)
 Rose: *Rosa* (ROS)
 Rose Crown: *Clementsia* (CRS)
 Rose Root: *Rhodiola* (CRS)
 Rush: *Juncus* (JUN)
 Rye: *Secale* (POA)
 Ryegrass: *Lolium* (POA)
 Sage: *Artemisia*, *Seriphidium* (AST)
 Sagebrush: *Artemisia*, *Seriphidium* (AST)
 Sagewort: *Artemisia* (AST)
 Salsify: *Tragopogon* (AST)
 Salt-and-pepper Grass: *Deschampsia* (POA)
 Sand Spurrey: *Spergularia* (ASN)
 Sandwort: *Eremogone*, *Lidia*, *Moehringia* (ASN)
 Saxifrage: *Ciliaria*, *Micranthes*, *Saxifraga* (SAX)
 Scouring-rush: *Hippochaete* (EQU)
 Sedge: *Carex* (CYP)
 Sego-lily: *Calochortus* (CCT)
 Selaginella: *Selaginella* (SEL)
 Serviceberry: *Amelanchier* (ROS)
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 Stickweed: *Hackelia* (BOR)
 Stitchwort: *Stellaria* (ASN)
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Gentiana plebia See **Gentianella acuta (GEN)**
Gentiana romanzovii See **Gentianodes algida (GEN)**
Gentiana strictiflora See **Gentianella strictiflora (GEN)**
Gentianella acuta (GEN)
Gentianella amarella subsp. *acuta* See **Gentianella acuta (GEN)**
≠Gentianella amarella subsp. *amarella* See **Gentianella acuta** and **G. strictiflora (GEN)**

Gentianella barbellata See *Gentianopsis barbellata* (GEN)
Gentianella strictiflora (GEN)
Gentianodes algida (GEN)
Gentianopsis barbellata (GEN)
Geranium richardsonii (GER)
Geum ciliatum See *Erythrocoma triflora* (ROS)
Geum macrophyllum subsp. *perincisum* See *Geum macrophyllum* var. *perincisum* (ROS)
Geum macrophyllum var. *perincisum* (ROS)
Geum rivale (ROS)
Geum rossii var. *turbinatum* See *Acomastylis rossii* subsp. *turbinata* (ROS)
Geum triflorum See *Erythrocoma triflora* (ROS)
Geum turbinatum See *Acomastylis rossii* subsp. *turbinata* (ROS)
Glyceria elata (POA)
Glyceria striata var. *stricta* (POA)
Gnaphalium macounii See *Pseudognaphalium stramineum* (AST)
Gnaphalium uliginosum (AST)
Gnaphalium viscosum See *Pseudognaphalium stramineum* (AST)
Goodyera oblongifolia (ORC)
Habenaria dilatata var. *albiflora* See *Limnorchis dilatata* subsp. *albiflora* (ORC)
Habenaria hyperborea See *Limnorchis hyperborea* (ORC)
Habenaria obtusata See *Lysiella obtusata* (ORC)
Habenaria saccata See *Limnorchis stricta* (ORC)
Hackelia floribunda (BOR)
Haplopappus parryi See *Oreochrysum parryi* (AST)
Haplopappus pygmaeus See *Tonestus pygmaeus* (AST)
**Helenium hoopesii* See "names excluded from the checklist"
Helianthella quinquenervis (AST)
Helictotrichon mortonianum (POA)
Heracleum lanatum See *Heracleum sphondylium* subsp. *montanum* (API)
Heracleum sphondylium var. *lanatum* See *Heracleum sphondylium* subsp. *montanum* (API)
Heracleum sphondylium subsp. *montanum* (API)
Hesperochloa kingii See *Leucopoa kingii* (POA)
Heterotheca pumila (AST)
Heterotheca villosa var. *villosa* (AST)
Heuchera sp. (SAX)
**Heuchera parvifolia* See "names excluded from the checklist," under *H. rubescens*
**Heuchera rubescens* See "names excluded from the checklist"
Hieracium albiflorum See *Chlorocrepis albiflora* (AST)
Hieracium gracile See *Chlorocrepis tristis* subsp. *gracilis* (AST)
Hippochaete hyemalis (EQU)
Hippochaete hyemalis subsp. *affinis* See *Hippochaete hyemalis* (EQU)
Hordeum brachyantherum See *Critesion brachyantherum* (POA)
Hordeum jubatum var. *caespitosum* See *Critesion jubatum* (POA)
Hordeum jubatum var. *jubatum* See *Critesion jubatum* (POA)
Hydrophyllum fendleri (HYD)
Hymenoxys grandiflora See *Rydbergia grandiflora* (AST)
**Juncus ater* See "names excluded from the checklist," under *J. balticus*
**Juncus balticus* See "names excluded from the checklist"
Juncus confusus (JUN)
Juncus drummondii (JUN)
Juncus hallii (JUN)
Juncus mertensianus (JUN)
**Juncus parryi* See "names excluded from the checklist"

Juncus saximontanus (JUN)
Juniperus communis L. subsp. alpina (CUP)
Juniperus communis var. montana See **Juniperus communis L. subsp. alpina (CUP)**
Juniperus communis var. saxatilis See **Juniperus communis L. subsp. alpina (CUP)**
Kalmia microphylla (ERI)
Kalmia polifolia var. microphylla See **Kalmia microphylla (ERI)**
Kobresia bellardii var. bellardii See **Kobresia myosuroides (CYP)**
Kobresia myosuroides (CYP)
Koeleria cristata See **Koeleria macrantha (POA)**
Koeleria macrantha (POA)
Lactuca sp. (AST)
Lathyrus leucanthus (FAB)
**Leontodon taraxacum* See "names excluded from the checklist"
Lepidium ramosissimum (BRA)
Lesquerella montana (BRA)
Lesquerella rectipes* See checklist comment under **L. montana (BRA)
Leucanthemum vulgare (AST)
Leucopoa kingii (POA)
Lewisia pygmaea var. pygmaea See **Oreobroma pygmaea (POR)**
Lidia obtusiloba (ASN)
Ligularia amplexans (AST)
≠Ligularia bigelovii See **Ligularia bigelovii var. hallii (AST)**
Ligularia bigelovii var. hallii (AST)
Ligularia soldanella (AST)
Ligusticum porteri (API)
Limnorchis dilatata subsp. albiflora (ORC)
Limnorchis hyperborea (ORC)
≠Limnorchis saccata See **Limnorchis hyperborea (ORC)**
Limnorchis saccata See **Limnorchis stricta (ORC)**
Limnorchis stricta (ORC)
Linaria vulgaris (SCR)
≠Linnaea borealis See **Linnaea borealis subsp. americana (CPR)**
Linnaea borealis subsp. americana (CPR)
Linnaea borealis var. americana See **Linnaea borealis subsp. americana (CPR)**
Linum lewisii See **Adenolinum lewisii (LIN)**
≠Listera cordata See **Listera cordata subsp. nephrophylla (ORC)**
Listera cordata subsp. nephrophylla (ORC)
Lloydia serotina (LIL)
Lolium multiflorum See **Lolium perenne subsp. italicum (POA)**
Lolium perenne subsp. italicum (POA)
≠Lolium perenne subsp. perenne See **Lolium perenne subsp. italicum (POA)**
Lonicera involucrata See **Distegia involucrata (CPR)**
Lophopyrum elongatum See **Thinopyrum ponticum (POA)**
Lupinus argenteus (FAB)
Lupinus argenteus subsp. rubricaulis See **Lupinus argenteus (FAB)**
Lupinus caudatus (FAB)
Lupinus caudatus subsp. argophyllus See **Lupinus caudatus (FAB)**
Lupinus greenei See **Lupinus caudatus (FAB)**
Luzula comosa (JUN)
≠Luzula multiflora See **Luzula comosa (JUN)**
Luzula parviflora (JUN)
Luzula spicata (JUN)
Luzula subcapitata (JUN)

Lychnis alba See *Melandrium dioicum* (CRY)
Lychnis drummondii See *Gastrolychnis drummondii* (CRY)
Lycopodium annotinum (LYC)
Lysiella obtusata (ORC)
 **Machaeranthera bigelovii* See "names excluded from the checklist," under *Aster bigelovii*
Madia glomerata (AST)
Mahonia repens (BER)
Maianthemum stellatum (CVL)
Matricaria inodora See *Matricaria perforata* (AST)
Matricaria perforata (AST)
Melandrium dioicum (CRY)
Melandrium drummondii See *Gastrolychnis drummondii* (CRY)
Melica bulbosa See *Bromelica bulbosa* (POA)
Melilotus alba See *Melilotus albus* (FAB)
Melilotus albus (FAB)
Melilotus officinale (FAB)
Melilotus officinalis See *Melilotus officinale* (FAB)
Mertensia ciliata (BOR)
 ≠ *Mertensia lanceolata* See *Mertensia lanceolata* var. *viridus* (BOR)
Mertensia lanceolata var. *viridis* (BOR)
Mertensia viridis var. *cana* See *Mertensia lanceolata* var. *viridus* (BOR)
Mertensia viridis var. *viridis* See *Mertensia lanceolata* var. *viridus* (BOR)
 **Micranthes arguta* See checklist comment under *M. odontoloma* (SAX)
Micranthes odontoloma (SAX)
Micranthes oregana (SAX)
Micranthes rhomboidea (SAX)
Mimulus guttatus (SCR)
Mimulus langsdorffii See *Mimulus guttatus* (SCR)
Mitella pentandra (SAX)
 ≠ *Mitella stauropetala* See *Mitella stauropetala* var. *stenopetala* (SAX)
Mitella stauropetala var. *stenopetala* (SAX)
Mitella stenopetala See *Mitella stauropetala* var. *stenopetala* (SAX)
Moldavica parviflora See *Dracocephalum parviflorum* (LAM)
Moneses uniflora (PYR)
Muhlenbergia montana (POA)
Muhlenbergia richardsonis (POA)
Noccaea montana (BRA)
Oreobroma pygmaea (POR)
Oreochrysum parryi (AST)
Oreoxis alpina subsp. *alpina* (API)
Orthilia secunda (PYR)
Orthocarpus luteus (SCR)
Oryzopsis asperifolia (POA)
Oryzopsis pungens (POA)
Osmorhiza depauperata (API)
Osmorhiza obtusa See *Osmorhiza depauperata* (API)
Oxypholis fendleri (API)
Oxyria digyna (PLG)
 ≠ *Oxytropis campestris* var. *glabrata* See *Oxytropis campestris* var. *gracilis* (FAB)
Oxytropis campestris var. *gracilis* (FAB)
Oxytropis gracilis See *Oxytropis campestris* var. *gracilis* (FAB)
Pachystima myrsinites See *Paxistima myrsinites* (CEL)
Packera cana (AST)

Packera crocata (AST)
Packera dimorphophylla subsp. *dimorphophylla* (AST)
Packera streptanthifolia (AST)
Packera werneriiifolia (AST)
Padus virginiana subsp. *melanocarpa* (ROS)
Parnassia fimbriata (PAR)
Parnassia parviflora (PAR)
Paronchia pulvinata (ASN)
***Pascopyrum smithii** See "names excluded from the checklist," under *Agropyron smithii*
Paxistima myrsinites (CEL)
Pedicularis bracteosa subsp. *paysoniana* (SCR)
Pedicularis groenlandica (SCR)
Pedicularis parryi subsp. *parryi* (SCR)
Pedicularis paysoniana See **Pedicularis bracteosa** subsp. *paysoniana* (SCR)
≠ Pedicularis racemosa See **Pedicularis racemosa** subsp. *alba* (SCR)
Pedicularis racemosa subsp. *alba* (SCR)
***Penstemon glaber** See "names excluded from the checklist," under *P. virens*
Penstemon glaucus var. *stenosepalus* See **Penstemon whippleanus** (SCR)
Penstemon rydbergii (SCR)
Penstemon rydbergii subsp. *aggregatus* See **Penstemon rydbergii** (SCR)
***Penstemon virens** See "names excluded from the checklist"
Penstemon whippleanus (SCR)
Pentaphylloides floribunda (ROS)
Phacelia sericea subsp. *sericea* (HYD)
≠ Phleum alpinum See **Phleum commutatum** (POA)
Phleum commutatum (POA)
Phleum pratense (POA)
Phlox multiflora (PLM)
Picea engelmannii (PIN)
Pinus contorta subsp. *latifolia* See **Pinus contorta** var. *latifolia* (PIN)
Pinus contorta var. *latifolia* (PIN)
Pinus taxifolia See **Pseudotsuga menziesii** (PIN)
Plantago major (PTG)
Pneumonanthe parryi (GEN)
Poa agassizensis (POA)
Poa alpina (POA)
Poa ampla See **Poa juncifolia** (POA)
Poa annua (POA)
Poa arctica (POA)
Poa compressa (POA)
Poa cusickii subsp. *epilis* (POA)
Poa epilis See **Poa cusickii** subsp. *epilis* (POA)
Poa fendleriana (POA)
Poa glauca subsp. *rupicola* (POA)
Poa glaucifolia (POA)
Poa interior See **Poa nemoralis** subsp. *interior* (POA)
Poa juncifolia (POA)
Poa leptocoma (POA)
Poa nemoralis subsp. *interior* (POA)
Poa nervosa (POA)
***Poa occidentalis** See "names excluded from the checklist"
Poa palustris (POA)
Poa pratensis (POA)

Poa reflexa (POA)
Poa rupicola See *Poa glauca* subsp. *rupicola* (POA)
Poa sandbergii See *Poa secunda* (POA)
Poa secunda (POA)
Polemonium caeruleum subsp. *amygdalinum* (PLM)
Polemonium delicatum See *Polemonium pulcherrimum* subsp. *delicatum* (PLM)
Polemonium occidentale See *Polemonium caeruleum* subsp. *amygdalinum* (PLM)
Polemonium pulcherrimum subsp. *delicatum* (PLM)
Polemonium viscosum (PLM)
Polygonum arenastrum (PLG)
Polygonum aviculare var. *aviculare* See *Polygonum arenastrum* (PLG)
Polygonum bistortoides var. *bistortoides* See *Bistorta bistortoides* (PLG)
Polygonum bistortoides var. *linearifolium* See *Bistorta bistortoides* (PLG)
Polygonum douglasii (PLG)
Polygonum viviparum See *Bistorta vivipara* (PLG)
Populus angustifolia (SAL)
Populus tremuloides (SAL)
Potentilla concinna var. *concinna* (ROS)
Potentilla diversifolia (ROS)
Potentilla fruticosa See *Pentaphylloides floribunda* (ROS)
Potentilla gracilis var. *pulcherrima* See *Potentilla pulcherrima* (ROS)
Potentilla hippiana (ROS)
Potentilla pulcherrima (ROS)
Potentilla subjuga (ROS)
**Primula angustifolia* See "names excluded from the checklist"
Primula parryi (PRM)
Prunus melanocarpa See *Padus virginiana* subsp. *melanocarpa* (ROS)
Prunus virginiana var. *melanocarpa* See *Padus virginiana* subsp. *melanocarpa* (ROS)
Pseudocymopterus montanus (API)
Pseudognaphalium stramineum (AST)
**Pseudoregnaria spicata* subsp. *spicata* See "names excluded from the checklist," under *Agropyron spicatum*
Pseudotsuga menziesii (PIN)
Psilochenia acuminata (AST)
Psychrophila leptosepala (HEL)
Pterospora andromedea (MNT)
Pulsatilla ludoviciana See *Pulsatilla patens* subsp. *multifida* (RAN)
Pulsatilla patens subsp. *hirsutissima* See *Pulsatilla patens* subsp. *multifida* (RAN)
Pulsatilla patens subsp. *multifida* (RAN)
Pyrola asarifolia var. *asarifolia* See *Pyrola rotundifolia* subsp. *asarifolia* (PYR)
Pyrola asarifolia var. *purpurea* See *Pyrola rotundifolia* subsp. *asarifolia* (PYR)
Pyrola chlorantha (PYR)
Pyrola minor (PYR)
Pyrola rotundifolia subsp. *asarifolia* (PYR)
Pyrola secunda See *Orthilia secunda* (PYR)
Pyrola uliginosa See *Pyrola rotundifolia* subsp. *asarifolia* (PYR)
Pyrola virens See *Pyrola chlorantha* (PYR)
Ramischia secunda See *Orthilia secunda* (PYR)
Ranunculus adoneus (RAN)
Ranunculus alismifolius var. *montanus* (RAN)
Ranunculus aquatilis var. *capillaceus* See *Batrachium trichophyllum* (RAN)
Ranunculus eschscholtzii (RAN)
Ranunculus eschscholtzii var. *eschscholtzii* See *Ranunculus eschscholtzii* (RAN)
Ranunculus eschscholtzii var. *typicus* See *Ranunculus eschscholtzii* (RAN)

Ranunculus inamoenus (RAN)
Ranunculus inamoenus var. *alpeophilus* See **Ranunculus inamoenus (RAN)**
Ranunculus pedatifidus (RAN)
Rhodiola integrifolia (CRS)
Ribes coloradense (GRS)
Ribes inerme (GRS)
Ribes lacustre (GRS)
 ***Ribes leptanthum** See "names excluded from the checklist"
Ribes montigenum (GRS)
 ≠ *Rosa acicularis* See **Rosa sayi (ROS)**
Rosa acicularis subsp. *sayi* See **Rosa sayi (ROS)**
 ≠ *Rosa nutkana* See **Rosa sayi** and **R. woodsii (ROS)**
Rosa sayi (ROS)
Rosa woodsii (ROS)
 ***Rubacer parviflorum** See "names excluded from the checklist," under *Rubus parviflorus*
Rubus idaeus subsp. **melanolasius (ROS)**
 ***Rubus parviflorus** See "names excluded from the checklist"
Rubus strigosus See **Rubus idaeus** subsp. **melanolasius (ROS)**
 ***Rudbeckia** sp. See "names excluded from the checklist"
 ≠ *Rumex mexicanus* See **Rumex triangulivalvis (PLG)**
Rumex quadrangulivalvis (misspelling) See **Rumex triangulivalvis (PLG)**
Rumex triangulivalvis (PLG)
Rydbergia grandiflora (AST)
Sagina saginoides (ASN)
Salix anglorum var. *antiplasta* See **Salix arctica** subsp. **petraea (SAL)**
 ≠ *Salix arctica* See **Salix arctica** subsp. **petraea (SAL)**
Salix arctica subsp. **petraea (SAL)**
Salix bebbiana (SAL)
Salix boothii (SAL)
Salix brachycarpa (SAL)
Salix brachycarpa var. *antimima* See **Salix brachycarpa (SAL)**
Salix brachycarpa var. *brachycarpa* See **Salix brachycarpa (SAL)**
Salix drummondiana (SAL)
Salix drummondiana var. *subcoerulea* See **Salix drummondiana (SAL)**
Salix geyeriana (SAL)
Salix geyeriana var. *geyeriana* See **Salix geyeriana (SAL)**
Salix monticola (SAL)
Salix nivalis var. *nivalis* See **Salix reticulata** subsp. **nivalis (SAL)**
Salix planifolia (SAL)
Salix planifolia var. *monica* See **Salix planifolia (SAL)**
 ≠ *Salix pseudocordata* See **Salix boothii (SAL)**
Salix reticulata subsp. **nivalis (SAL)**
Salix scouleriana (SAL)
Salix subcoerulea See **Salix drummondiana (SAL)**
Salix wolfii (SAL)
Salix wolfii var. *idahoensis* See **Salix wolfii (SAL)**
Salix wolfii var. *wolfii* See **Salix wolfii (SAL)**
Sambucus melanocarpa See **Sambucus microbotrys (CPR)**
Sambucus microbotrys (CPR)
 ≠ *Sambucus pubens* See **Sambucus microbotrys (CPR)**
Sambucus racemosa subsp. *pubens* var. *microbotrys* See **Sambucus microbotrys (CPR)**
 ≠ *Sambucus racemosa* subsp. *racemosa* See **Sambucus microbotrys (CPR)**
 ≠ *Saxifraga arguta* See **Micranthes odontoloma (SAX)**

Saxifraga austromontana See *Ciliaria austromontana* (SAX)
Saxifraga bronchialis subsp. *austromontana* See *Ciliaria austromontana* (SAX)
 \neq *Saxifraga bronchialis* subsp. *bronchialis* See *Ciliaria austromontana* (SAX)
Saxifraga debilis See *Saxifraga hyperborea* subsp. *debilis* (SAX)
Saxifraga hyperborea subsp. *debilis* (SAX)
Saxifraga montanensis See *Micranthes oregana* (SAX)
Saxifraga odontoloma See *Micranthes odontoloma* (SAX)
Saxifraga oregana var. *montanensis* See *Micranthes oregana* (SAX)
Saxifraga rhomboidea See *Micranthes rhomboidea* (SAX)
 \neq *Saxifraga subapetala* See *Micranthes oregana* (SAX)
Secale cereale (POA)
Sedum integrifolium See *Rhodiola integrifolia* (CRS)
Sedum lanceolatum See *Amerosedum lanceolatum* (CRS)
Sedum rhodanthum See *Clementsia rhodantha* (CRS)
 \neq *Sedum stenopetalum* See *Amerosedum lanceolatum* (CRS)
Selaginella densa (SEL)
Senecio ambrosioides See *Senecio eremophilus* subsp. *kingii* (AST)
Senecio amplexans var. *amplexans* See *Ligularia amplexans* (AST)
Senecio atratus (AST)
Senecio bigelovii var. *hallii* See *Ligularia bigelovii* var. *hallii* (AST)
 \neq *Senecio bigelovii* var. *bigelovii* See *Ligularia bigelovii* var. *hallii* (AST)
Senecio canus See *Packera cana* (AST)
Senecio canus var. *purshianus* See *Packera cana* (AST)
Senecio carthamoides See *Senecio fremontii* subsp. *blitoides* (AST)
Senecio crassulus (AST)
Senecio crocatus See *Packera crocata* (AST)
Senecio cymbalarioides See *Packera streptanthifolia* (AST)
Senecio dimorphophyllus See *Packera dimorphophylla* subsp. *dimorphophylla* (AST)
Senecio eremophilus subsp. *kingii* (AST)
Senecio fremontii subsp. *blitoides* (AST)
Senecio integerrimus (AST)
Senecio purshianus See *Packera cana* (AST)
Senecio saxosus See *Packera werneriiifolia* (AST)
Senecio serra var. *admirabilis* (AST)
 \neq *Senecio serra* var. *serra* See *Senecio serra* var. *admirabilis* (AST)
Senecio soldanella See *Ligularia soldanella* (AST)
Senecio triangularis (AST)
Senecio werneriiifolius var. *werneriiifolius* See *Packera werneriiifolia* (AST)
Senecio wootonii (AST)
Seriphidium canum (AST)
Seriphidium vaseyanum (AST)
Shepherdia canadensis (ELE)
Sibbaldia procumbens (ROS)
Sidalcea candida (MLV)
Silene acaulis subsp. *acaulescens* (misspelling) See *Silene acaulis* subsp. *subacaulescens* (CRY)
Silene acaulis subsp. *subacaulescens* (CRY)
Silene cucubalus See *Silene vulgaris* (CRY)
Silene drummondii See *Gastrolychnis drummondii* (CRY)
Silene latifolia subsp. *alba* See *Melandrium dioicum* (CRY)
Silene menziesii See *Anotites menziesii* (CRY)
Silene vulgaris (CRY)
**Sisymbrium* sp. See "names excluded from the checklist"
Sisyrinchium montanum (IRI)

Sitanion hystrix See *Elymus elymoides* (POA)
Sitanion hystrix var. *brevifolium* See *Elymus elymoides* (POA)
Smelowskia calycina (BRA)
Smilacina stellata See *Maianthemum stellatum* (CVL)
Solidago ciliosa See *Solidago multiradiata* var. *scopulorum* (AST)
Solidago decumbens var. *oreophila* See *Solidago spathulata* var. *neomexicana* (AST)
Solidago missouriensis (AST)
Solidago multiradiata subsp. *scopulorum* See *Solidago multiradiata* var. *scopulorum* (AST)
Solidago multiradiata var. *scopulorum* (AST)
Solidago parryi See *Oreochrysum parryi* (AST)
Solidago spathulata var. *neomexicana* (AST)
Sonchus arvensis subsp. *glabrescens* See *Sonchus uliginosus* (AST)
Sonchus arvensis var. *glabrescens* See *Sonchus uliginosus* (AST)
Sonchus uliginosus (AST)
Sorbus scopulina (ROS)
Spergularia rubra (ASN)
Spiranthes romanzoffiana (ORC)
Stellaria longipes (ASN)
Stellaria longipes var. *longipes* See *Stellaria longipes* (ASN)
Stellaria longipes subsp. *stricta* See *Stellaria longipes* (ASN)
Stellaria umbellata (ASN)
Stipa columbiana var. *nelsonii* See *Stipa nelsonii* (POA)
Stipa lettermanii (POA)
Stipa nelsonii (POA)
≠ Streptopus amplexifolius var. *americanus* See *Streptopus fassettii* (UVU)
Streptopus amplexifolius var. *chalazatus* See *Streptopus fassettii* (UVU)
**Streptopus angustifolia* (misspelling) See "names excluded from the checklist"
Streptopus fassettii (UVU)
Swertia palustris See *Swertia perennis* (GEN)
Swertia perennis (GEN)
Swertia radiata See *Frasera speciosa* (GEN)
**Taraxacum ceratophorum* See "names excluded from the checklist," under *T. dumetorum*
**Taraxacum dumetorum* See "names excluded from the checklist"
Taraxacum officinale (AST)
**Taraxacum ovinum* See "names excluded from the checklist," under *T. dumetorum*
**Thalictrum fendleri* See text, under aspen plant associations
Thalictrum sparsiflorum (COP)
Thalictrum sparsiflorum var. *saximontanum* See *Thalictrum sparsiflorum* (COP)
Thermopsis divaricarpa (FAB)
Thinopyrum intermedium subsp. *intermedium* (POA)
Thinopyrum ponticum (POA)
≠ Thlaspi alpestre See *Noccaea montana* (BRA)
Thlaspi montanum See *Noccaea montana* (BRA)
Tonestus pygmaeus (AST)
Tragopogon dubius subsp. *major* (AST)
Trifolium dasyphyllum (FAB)
Trifolium hybridum (FAB)
≠ Trifolium longipes subsp. *longipes* See *Trifolium rusbyi* subsp. *reflexum* (FAB)
Trifolium longipes var. *reflexum* See *Trifolium rusbyi* subsp. *reflexum* (FAB)
Trifolium nanum (FAB)
Trifolium parryi (FAB)
Trifolium repens (FAB)
Trifolium rusbyi subsp. *reflexum* (FAB)

≠ *Trisetum spicatum* See *Trisetum spicatum* subsp. *congdonii* and *majus* (POA)
Trisetum spicatum subsp. *congdonii* (POA)
Trisetum spicatum subsp. *majus* See *Trisetum spicatum* subsp. *molle* (POA)
Trisetum spicatum subsp. *molle* (POA)
Trisetum wolfii (POA)
Trollius albiflorus (HEL)
Trollius laxus var. *albiflorus* See *Trollius albiflorus* (HEL)
Turritis glabra (BRA)
Vaccinium caespitosum See *Vaccinium cespitosum* (ERI)
Vaccinium cespitosum (ERI)
 ≠ *Vaccinium myrtillus* See *Vaccinium myrtillus* subsp. *oreophilum* (ERI)
Vaccinium myrtillus subsp. *oreophilum* (ERI)
Vaccinium scoparium (ERI)
Valeriana capitata subsp. *acutiloba* (VAL)
Valeriana edulis (VAL)
 ≠ *Veratrum californicum* See *Veratrum tenuipetalum* (MLN)
 ≠ *Veratrum speciosum* See *Veratrum tenuipetalum* (MLN)
Veratrum tenuipetalum (MLN)
Verbascum thapsus (SCR)
Veronica americana (SCR)
Veronica nutans (SCR)
 ≠ *Veronica wormskioldii* See *Veronica nutans* (SCR)
 ≠ *Veronica wormskjoldii* See *Veronica nutans* (SCR)
Vicia americana var. *americana* (FAB)
Viola adunca (VIO)
Viola adunca var. *adunca* See *Viola adunca* (VIO)
Viola adunca var. *bellidifolia* See *Viola labradorica* (VIO)
Viola bellidifolia See *Viola labradorica* (VIO)
 ≠ *Viola canadensis* See *Viola rydbergii* and *V. scopulorum* (VIO)
 ≠ *Viola canadensis* var. *canadensis* See *Viola scopulorum* (VIO)
Viola canadensis var. *scopulorum* See *Viola scopulorum* (VIO)
 ≠ *Viola canadensis* var. *rugulosa* See *Viola rydbergii* (VIO)
Viola canadensis var. *rydbergii* See *Viola rydbergii* (VIO)
 ≠ *Viola epipsiloides* See *Viola macloskeyi* subsp. *pallens* (VIO)
Viola labradorica (VIO)
Viola macloskeyi subsp. *pallens* (VIO)
Viola macloskeyi var. *pallens* See *Viola macloskeyi* subsp. *pallens* (VIO)
Viola pallens See *Viola macloskeyi* subsp. *pallens* (VIO)
Viola palustris subsp. *brevipes* See *Viola macloskeyi* subsp. *pallens* (VIO)
 ≠ *Viola palustris* subsp. *palustris* See *Viola macloskeyi* subsp. *pallens* (VIO)
 ≠ *Viola renifolia* See *Viola renifolia* var. *brainerdii* (VIO)
Viola renifolia var. *brainerdii* (VIO)
 ≠ *Viola rugulosa* See *Viola rydbergii* (VIO)
Viola rydbergii (VIO)
Viola scopulorum (VIO)
Virgulaster adscendens See *Virgulaster ascendens* (AST)
Virgulaster ascendens (AST)
 **Xocleria cristata* (misspelling) See "names excluded from the checklist"
Zigadenus elegans See *Anticlea elegans* (MLN)
Zygadenus elegans See *Anticlea elegans* (MLN)



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This report lists 441 vascular plant taxa in 228 genera and 63 families encountered on the 9,300-ha Fraser Experimental Forest in central Colorado. Synonyms appearing in previous publications and other works pertaining to the Fraser Experimental Forest, as well as appropriate Colorado floras and less-technical field guides, are included. Plant communities and habitats are discussed, and a list of 54 lichens is also presented. A glossary of related terms is included.

Keywords: checklist, Colorado, flora, Fraser Experimental Forest, lichens, nomenclature, Rocky Mountains, taxonomy.

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